environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

South African Weather Service
ISO 9001 Certified Organisation

National Atmospheric Emissions Inventory System

NAEIS
Industry User's Guide

Version: 2.0

08 November 2013

Revision History

Version	Date	Created By	Reviewed By	Description
1.0	15/7/2013	Peter Huang		Initial Version
2.0	Nov 2013	Sindisiwe Mashele		

Version Notes:

Version 1.0: note that all dates in the system are still in US Format of MM/DD/YYYY. This will be changed to DD/MM/YYYY in the near future.

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1 Introduction

Overview of NAEIS:

The national department has established an internet-based National Atmospheric Emission Inventory System (NAEIS) as a component of the South African Air Quality Information System (SAAQIS), Phase II. The system serves as an electronic file cabinet to manage emissions inventory (EI) reporting forms and to receive/store EI reports submitted by regulated facilities. The original scope of NAEIS was to provide a reporting platform for:

a. Reporting of atmospheric emissions (both greenhouse gasses and air pollutants) by regulated industries as is required by the Air Quality Act.
b. Reporting of atmospheric emissions from other sectors towards the compilation of National Emissions profiles in line with air quality management plans as well as South Africa's reporting obligations to the United Nations Framework for Climate Change Convention (UNFCCC).

NAEIS scope has now being widened to include:

c. GHG reporting verification for monitoring, evaluation as well as measuring mitigations plans.
d. Industry GHG reporting and verification for carbon tax purposes.
e. Envisaged reporting of energy data to support the Department of Energy requirements.

The system will provides an emission inventory reporting platform for non-listed activities, including all sector categories from the Intergovernmental Panel for Climate Change (IPCC) such as Energy; Industrial Processes and Product Use (IPPU); Agriculture, Forestry and Other Land Use (AFOLU) and Waste. Emissions can be estimated inside NAEIS or outside the system depending on the emission sources types. The NAEIS will also provide guidance and methodologies for the compilation both air pollutants and greenhouse gases emission inventories following best international practices. These tools will be available for emission inventory compilation by all spheres of government. The NAEIS will also serve as a platform for current and future emissions estimations. The SAAQIS will include the following with regard to emission inventories:

- Details of emissions from all source types (e.g. point, mobile, area, line, volume).
- Details of emissions by pollutant and greenhouse gas type.
- Norms and standards for emission inventories compilation.
- Examples of emission inventories compiled in South Africa.
- Search tools to interrogate the inventories.
- Details of licensed emissions.
- A database of emission factors for various activities.
- Documentation on Best Available Techniques (BAT).

NAEIS Goals and Benefits:

There are a number of beneficial goals that have been considered and which have guided the development of the NAEIS. Among them are:

- Support online availability of up-to-date NAEIS reporting requirements and tracking status of submitted EI Reports.
- Improve the accuracy of data by eliminating potential errors that would otherwise be introduced through manual data entry.
- Improve the security of EI Report submissions from regulated facilities.
- Reduce the regulated facility's costs by offering a streamlined reporting method using readily available computer tools.

- Save the authorities costs by reducing, and eventually better utilizing resources required for managing paper-based EI Reports.

The NAEIS-Facility System includes the following three (3) modules:

- User Account Management
- EI Report Data Entry
- System Utilities

1.1 NAEIS Goals and Benefits:

There are a number of beneficial goals that have been considered and which have guided the development of the NAEIS. Among them are:

- Support online availability of up-to-date NAEIS reporting requirements and tracking status of submitted EI Reports.
- Improve the accuracy of data by eliminating potential errors that would otherwise be introduced through manual data entry.
- Improve the security of EI Report submissions from regulated facilities.
- Reduce the regulated facility's costs by offering a streamlined reporting method using readily available computer tools.
- Save the Department of Environmental Affair's costs by reducing, and eventually better utilizing resources required for managing paper-based EI Reports.

1.2 EI Report Submission Process

The typical EI Report submission process performed by a facility Accounting Officer is shown below:

Step 1: Log into the NAEIS-Facility System via the Internet with an assigned user ID and password.
Step 2: Select a source in the NAEIS Report List. Click the View/Edit icon to enter the data entry form.
Step 3: Complete the Source Form, Contact Form, Stack Form (If necessary), Emission Unit Form, Reporting Group Form (If necessary), Activity & Emission Form, Preparer Form, and Submit Form.
Step 4: Perform the Emission Calculation and Completeness Check (as needed).
Step 5: Enter the PIN number and answer the security question in the Submit Form
Step 6: Submit the EI Report.

Please follow the step-by-step instructions in the NAEIS User's Guide to submit a report to the NAEIS.

2 Minimum System Requirements

Participating industries will need to have the ability to access NAEIS web site through the Internet. Typically, such access is available either through a dedicated connection through the facilities local area network or through a connection to an Internet Service Provider.

To ensure that all of the features of the NAEIS are available, Microsoft Internet Explorer web browser (version 6.0 or higher) is required. The performance of the NAEIS will vary based on the computer's internet connection speed, CPU, Operating System, and available memory. The following are recommended configurations:

- Broadband Internet Connection or higher
- Pentium II processor or higher
- Microsoft Windows XP or higher
- 256 MB of RAM or higher
- Microsoft Internet Explorer 6.0 or higher

3 System Features Overview

In the NAEIS, industry users will be able to maintain user account profile, submit EI Report, and view reference data used in EI Report. Industry users with an "Accounting Officer" or "Emissions Control Officer" role have the additional feature to add/update the association of "Reviewer" and "Preparer" industry user(s) to the facility.

For the User Account Management Module, industry users will be able to:

- Self-register a facility user account
- Request for a new password
- Modify account profile
- Update PIN and Security Questions (for "Accounting Officer" only)
- Associate Viewers and Preparers to the facility (for Accounting Officers and Emissions Control Officers only)

For the EI Report Data Entry Module, industry users will be able to:

- Complete the Source Form, Contact Form, Stack Form (If necessary), Emission Unit Form, Reporting Group Form (If necessary), Activity & Emission Form, Preparer Form, and Submit Form.
- Perform an Emission Calculation
- Perform a Completeness Check
- Certify and submit EI Report online

For the System Utilities Module, industry users will be able to:

- Search/view reference data used in EI Report (e.g. emission factor, substance code, material code, SCC code, and unit code)

In the following sections, all the features in the NAEIS listed above will be described in details.

4 High Level System Overview

4.1 *The BIG Picture*

The NAEIS is an all-in-one data reporting and management system that aims to achieve the following goals by providing a user-friendly platform for:

- Authority to add, remove, and manage facilities
- Data Providers to report necessary EI Reports
- Quality Assurance Staff to check and verify prepared EI Reports
- Authority to audit submitted EI Reports
- Authority to view reports that break down emission information by different categories

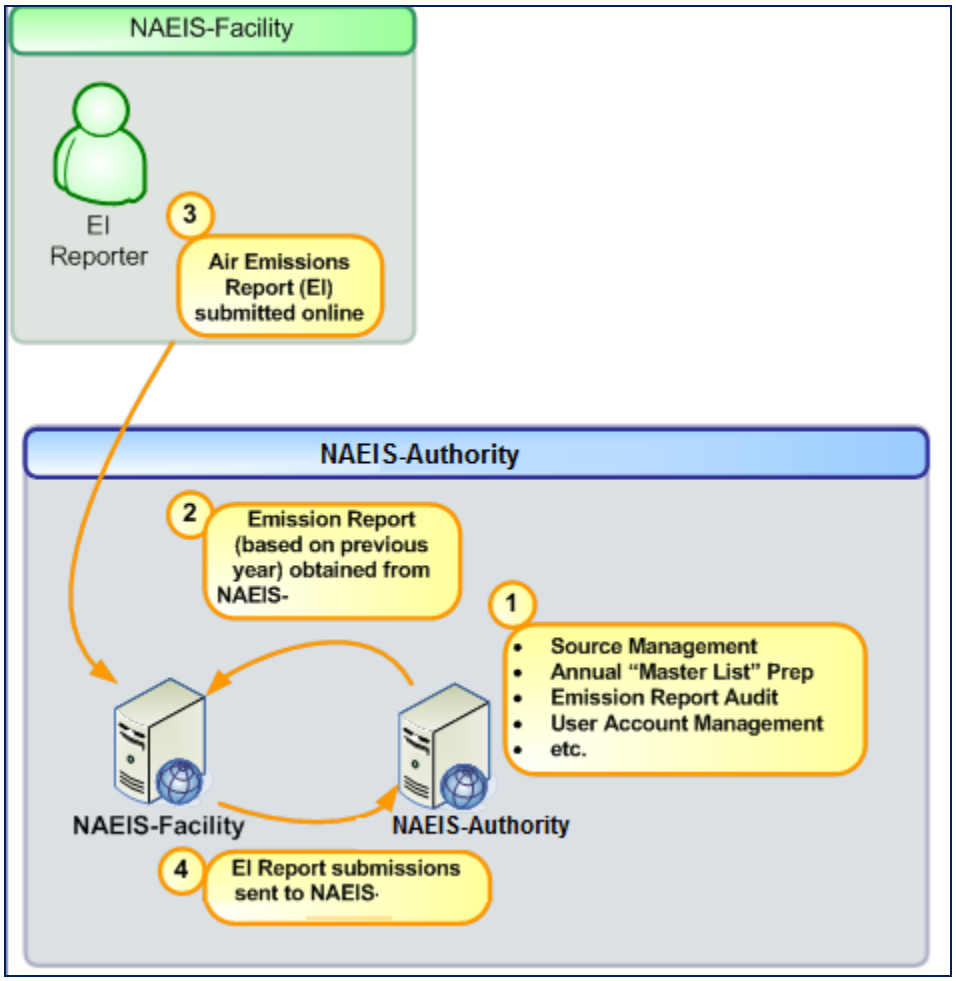


Figure 4-1: NAEIS High Level Overview

- The NAEIS has the capability to track emissions for Industrial as well as Non-Industrial Sources. Examples of Industrial Sources are factories, plants, drill sites, etc. Examples of Non-Industrial Sources are Residential Areas, Sea Ports, Vehicle Emission, etc.
- The NAEIS will include Stack, Emission Unit, Reporting Group, Activity, and Individual Pollutant Reporting.
- The reported data can assist the National Air Quality Department with further emission analysis. The NAEIS includes some analysis features such as the GHG Data Analysis Report and the Emission Search by GIS.

4.2 *Emission Inventory Data Model*

The below diagram shows the emission inventory data model. This outlines the hierarchical relationship of facilities, their emission units and stacks, and processes and emissions.

Modules:

- Facility
- Emission Unit and/or Reporting Group
- Stack
- Process (Activity)
- Emissions

Relationship:

- Reporting Year
- Data Hierarchy

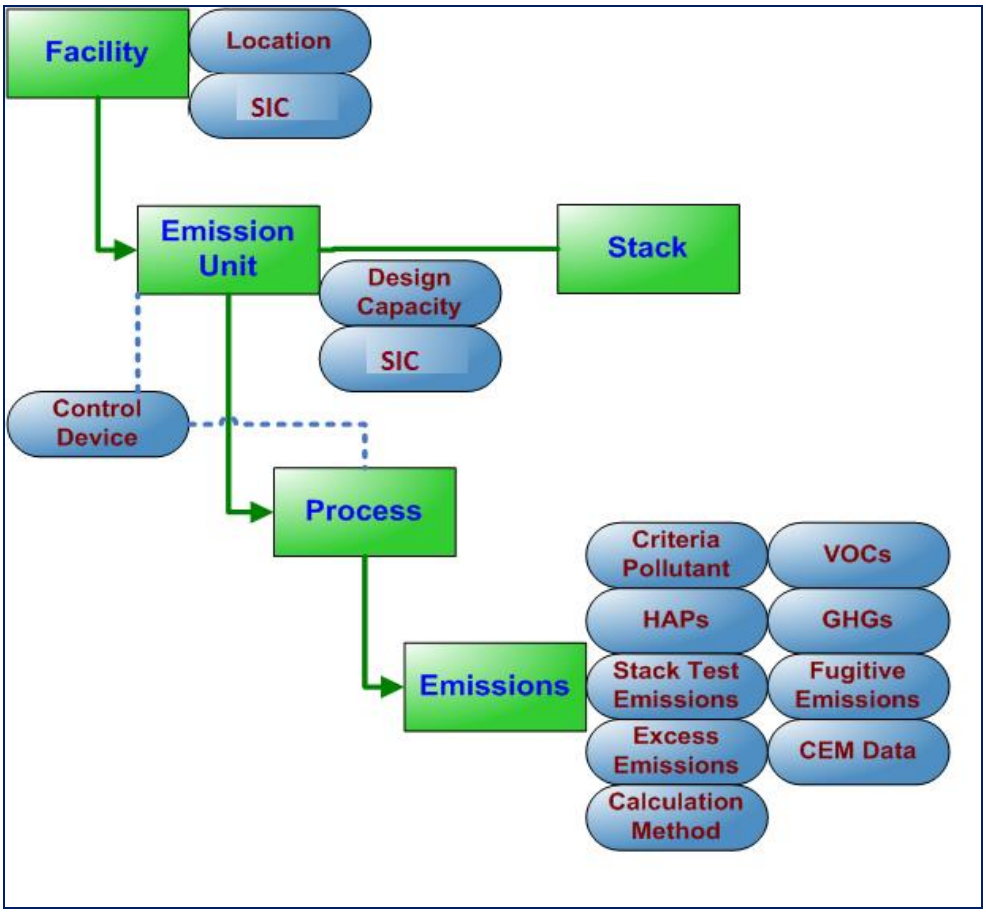


Figure 4-2: Emission Inventory Model

4.3 *Process Overview*

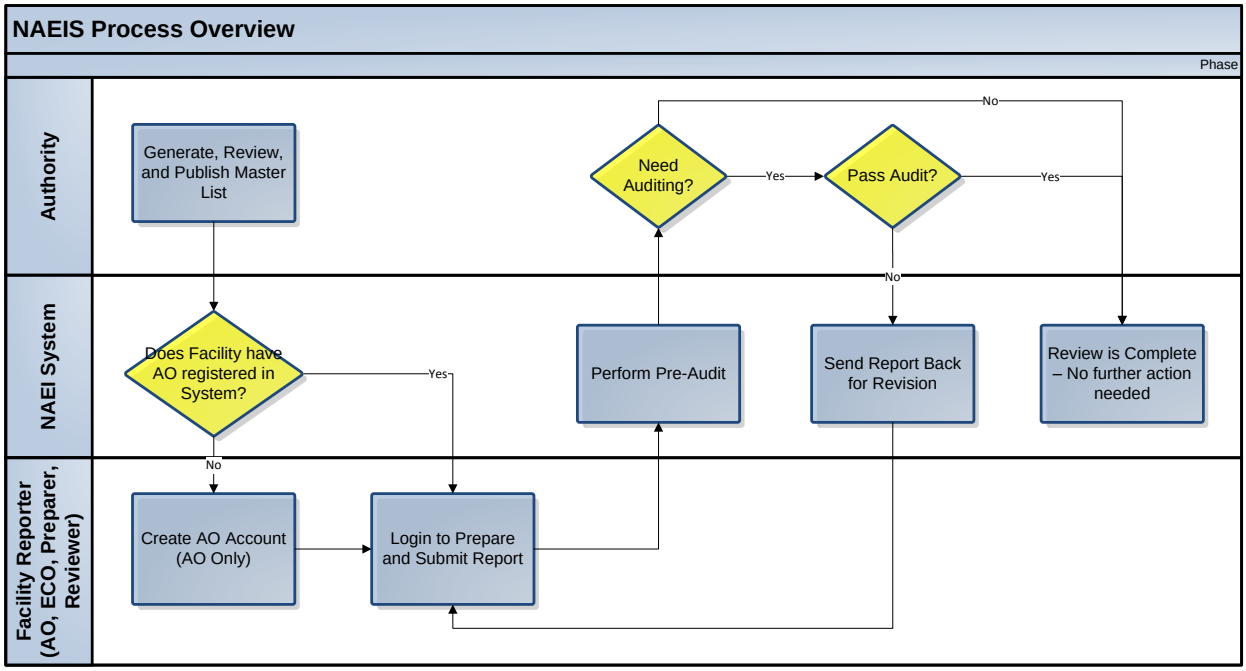


Figure 4-3: NAEIS Process Overview

4.4 *Actors and Roles*

The table below lists all the possible facility actors and roles within NAEIS. Their task description and permissions are also listed.

Actors and Roles (Facility)	
Actors	**Task Description**
Facility Accounting Officer	- Create/Associate Facility Users - Confirm e-mail for source - Enter or Revise Emission Data for relevant source - Check and edit Emission Data completeness for relevant source - Certify and Submit/Re-Submit Emission Data for relevant source
Facility ECO	- Create/Associate Facility Users - Confirm e-mail for source - Enter or Revise Emission Data for relevant source - Check and edit Emission Data completeness for relevant source
Facility Preparer/Consultant	- Enter or Revise Emission Data for relevant source - Check and edit Emission Data completeness for relevant source
Facility Reviewer	- View Emission Data for relevant sources - Check Emission Data completeness for relevant sources

5 User Login

This module is used by industry users to maintain their own account information. For industry users with either an "Accounting Officer" or "Emissions Control Officer" role, he/she will also be able to associate "Reviewer" and "Preparer" industry user(s) to the facility.

5.1 NAEIS Website Login

By using an Internet connection, and Internet Explorer version 6.0 or higher, an industry user can log into the NAEIS website. After entering the appropriate website address, the participant is greeted by the login screen. To enter the System, the industry participant will have to enter a valid user ID and password on the NAEIS Login screen shown below.

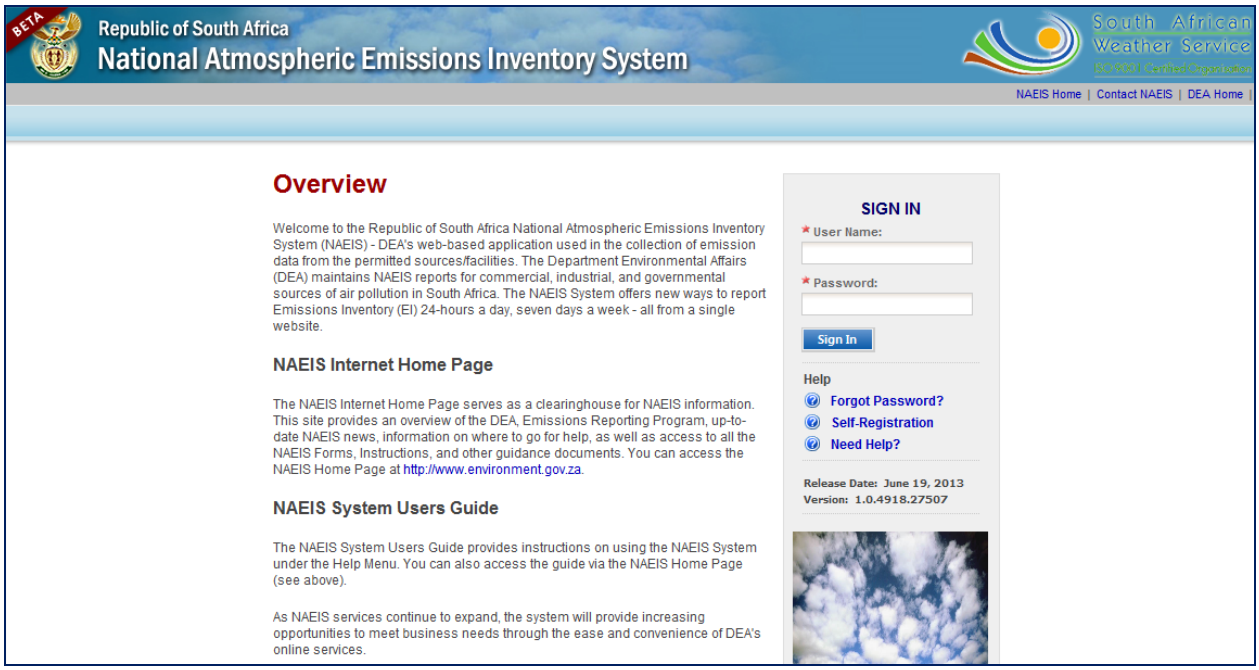

BETA
Republic of South Africa
National Atmospheric Emissions Inventory System
South African Weather Service
NAEIS Home | Contact NAEIS | DEA Home |
Overview
Welcome to the Republic of South Africa National Atmospheric Emissions Inventory System (NAEIS) - DEA's web-based application used in the collection of emission data from the permitted sources/facilities. The Department Environmental Affairs (DEA) maintains NAEIS reports for commercial, industrial, and governmental sources of air pollution in South Africa. The NAEIS System offers new ways to report Emissions Inventory (EI) 24-hours a day, seven days a week - all from a single website.
NAEIS Internet Home Page
The NAEIS Internet Home Page serves as a clearinghouse for NAEIS information. This site provides an overview of the DEA, Emissions Reporting Program, up-to-date NAEIS news, information on where to go for help, as well as access to all the NAEIS Forms, Instructions, and other guidance documents. You can access the NAEIS Home Page at http://www.environment.gov.za.
NAEIS System Users Guide
The NAEIS System Users Guide provides instructions on using the NAEIS System under the Help Menu. You can also access the guide via the NAEIS Home Page (see above).
As NAEIS services continue to expand, the system will provide increasing opportunities to meet business needs through the ease and convenience of DEA's online services.
SIGN IN
* User Name:
* Password:
Sign In
Help
Forgot Password?
Self-Registration
Need Help?
Release Date: June 19, 2013
Version: 1.0.4918.27507

Figure 5-1: NAEIS Website Login Page

5.2 Self-Registration

To establish a new user account in the NAEIS, click on the "Self-Registration" link to begin the registration process (Figure 5-2).

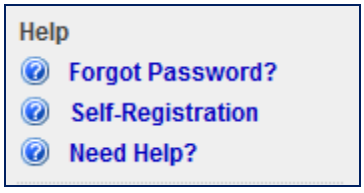


Figure 5-2: Link of Self Registration

Step 1: Select one of the following applicable roles:

- Accounting Officer
- Preparer/Consultant

- Emissions Control Officer
- Reviewer

Step 2: Fill in all required fields in the **Account Information** section.

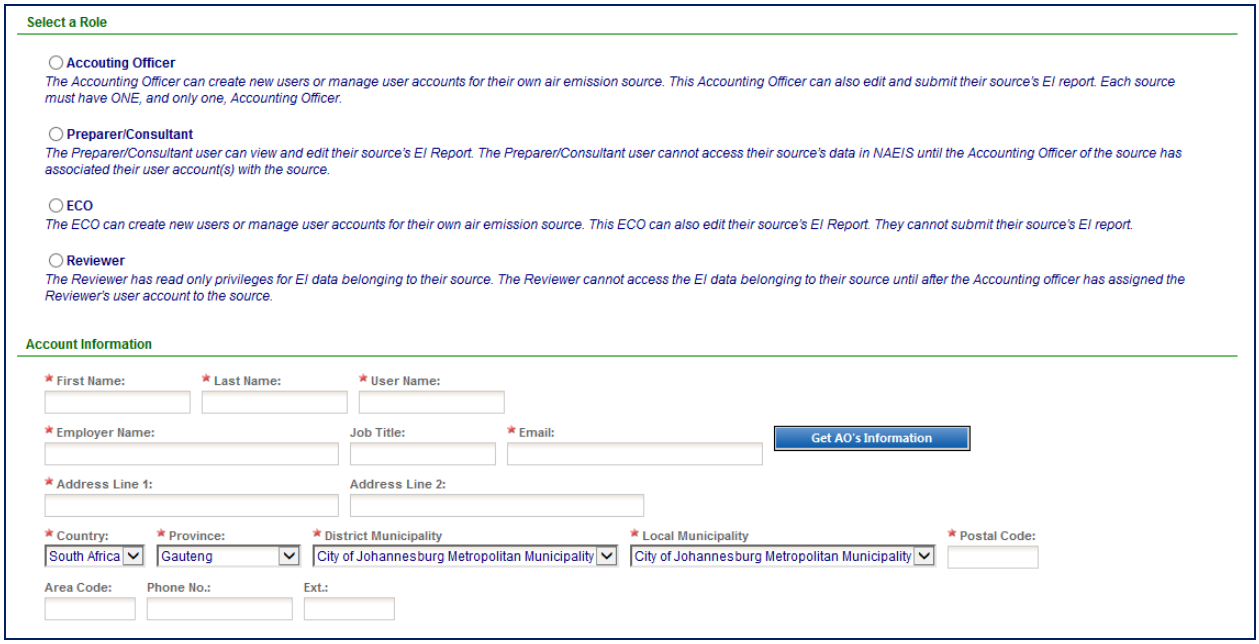

Select a Role
Accouting Officer
The Accounting Officer can create new users or manage user accounts for their own air emission source. This Accounting Officer can also edit and submit their source's EI report. Each source must have ONE, and only one, Accounting Officer.
Preparer/Consultant
The Preparer/Consultant user can view and edit their source's EI Report. The Preparer/Consultant user cannot access their source's data in NAEIS until the Accounting Officer of the source has associated their user account(s) with the source.
ECO
The ECO can create new users or manage user accounts for their own air emission source. This ECO can also edit their source's EI Report. They cannot submit their source's EI report.
Reviewer
The Reviewer has read only privileges for EI data belonging to their source. The Reviewer cannot access the EI data belonging to their source until after the Accounting officer has assigned the Reviewer's user account to the source.
Account Information
First Name:
Last Name:
User Name:
Employer Name:
Job Title:
Email:
Get AO's Information
Address Line 1:
Address Line 2:
Country:
Province:
District Municipality
Local Municipality
Postal Code:
South Africa
Gauteng
City of Johannesburg Metropolitan Municipality
City of Johannesburg Metropolitan Municipality
Area Code:
Phone No.:
Ext.:

Figure 5-3: Data Entry of Self Registration

Before completing the self-registration, please read the NAEIS Terms of Service in the **Agreements and Policy** section, and click on the checkbox to confirm the reading and acceptance of the agreements.

Step 3: Click on the **Create Account** button to submit the self-registration.

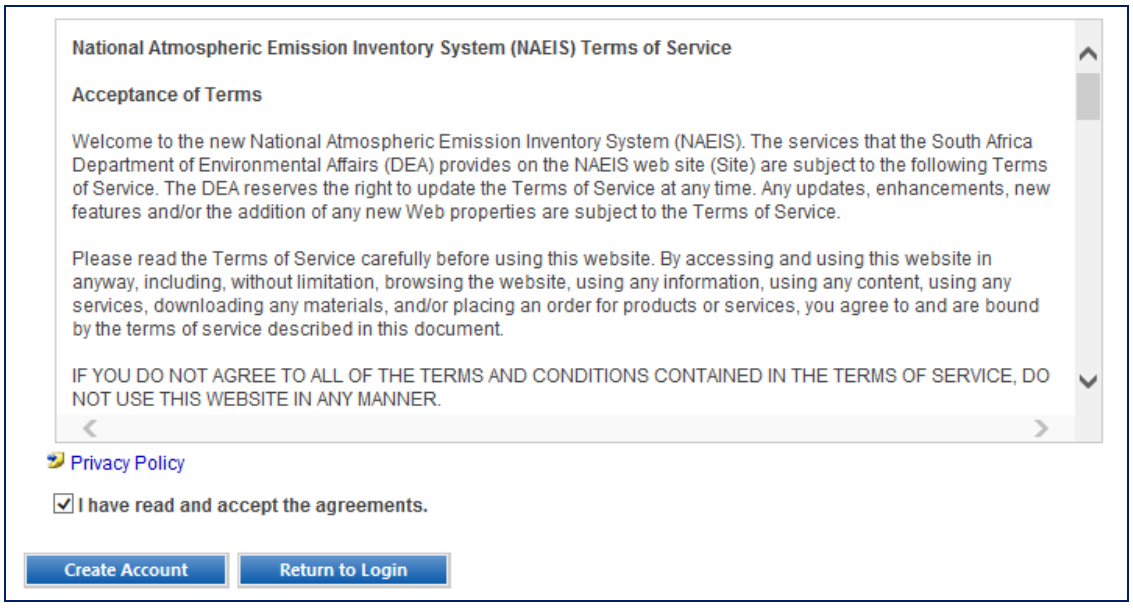

National Atmospheric Emission Inventory System (NAEIS) Terms of Service
Acceptance of Terms
Welcome to the new National Atmospheric Emission Inventory System (NAEIS). The services that the South Africa Department of Environmental Affairs (DEA) provides on the NAEIS web site (Site) are subject to the following Terms of Service. The DEA reserves the right to update the Terms of Service at any time. Any updates, enhancements, new features and/or the addition of any new Web properties are subject to the Terms of Service.
Please read the Terms of Service carefully before using this website. By accessing and using this website in anyway, including, without limitation, browsing the website, using any information, using any content, using any services, downloading any materials, and/or placing an order for products or services, you agree to and are bound by the terms of service described in this document.
IF YOU DO NOT AGREE TO ALL OF THE TERMS AND CONDITIONS CONTAINED IN THE TERMS OF SERVICE, DO NOT USE THIS WEBSITE IN ANY MANNER.
Privacy Policy
I have read and accept the agreements.
Create Account
Return to Login

Figure 5-4: Data Entry of Self-Registration

5.3 Forgot Password

If you forget the login password for the NAEIS, click the **Forgot Password** link in the login page to request a new password.

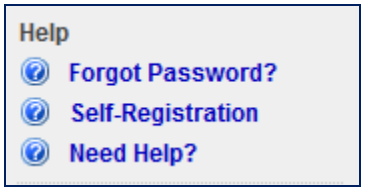


Figure 5-5: Link of Forgot Password

Enter the user name and email address to which the new password should be sent. Then, click the **Submit** button to send the request. The system will reset the password and send it to the indicated email address.

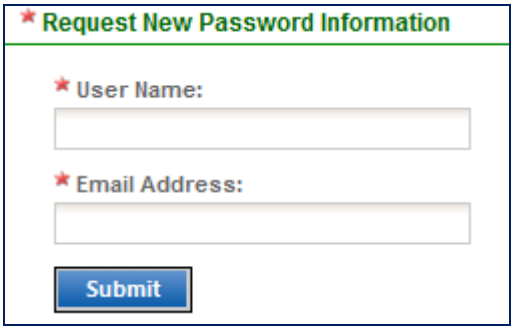


Figure 5-6: Request a New Password

5.4 My Account

The My Account module allows users to manage their own account information. The main features of this module consist of three sections:

- General Information
- Change Password
- Pin and Security Questions (for Accounting Officers Only)

General Information: Enter your First name, Last name, Employer, Job Title, Contact Address, Phone Number, and Email. Modify them as needed if the fields have been previously populated. Note that The fields marked with * are required fields.

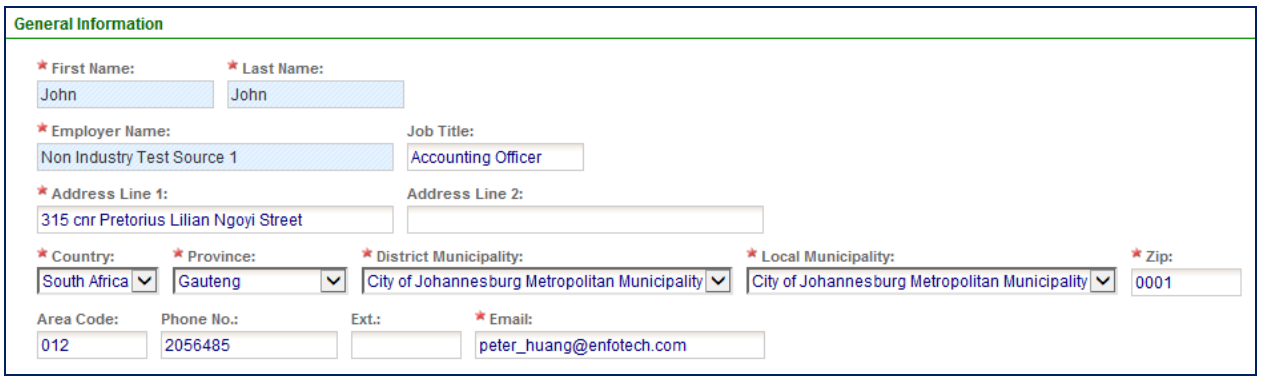

General Information
* First Name: John
* Last Name: John
* Employer Name: Non Industry Test Source 1
Job Title: Accounting Officer
* Address Line 1: 315 cnr Pretorius Lilian Ngoyi Street
Address Line 2:
* Country: South Africa
* Province: Gauteng
* District Municipality: City of Johannesburg Metropolitan Municipality
* Local Municipality: City of Johannesburg Metropolitan Municipality
* Zip: 0001
Area Code: 012
Phone No.: 2056485
Ext.:
* Email: peter_huang@enfotech.com

Figure 5-7: My Account - General Information

Change Password: To change your password, type in the old password and the new password. Retype the new password to confirm.

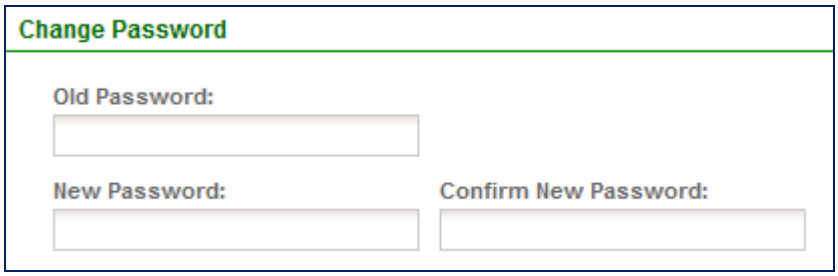


Figure 5-8: My Account - Change Password

PIN and Security Questions (for Accounting Officers Only): PINs and security questions are primarily used for Accounting Officers to submit NAEIS reports. If you make changes to this section, keep them secure for future submissions. To choose new security questions and answers, click the "Reset Security Questions" button to remove the answers.

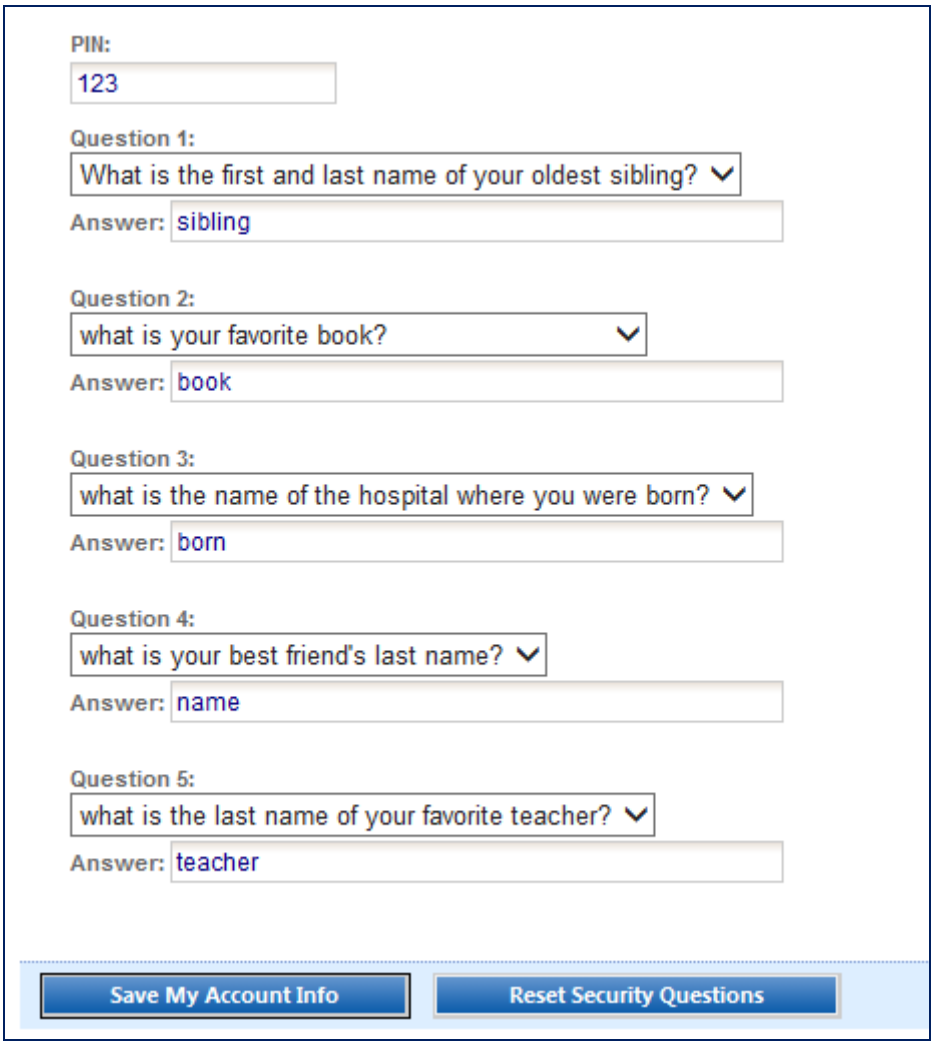


Figure 5-9: My Account - Pin and Security Questions

Once the three sections are completed, click the "**Save My Account**" button to save the data.

6 Report Data Entry

To access the Source Form, click the "NAEIS Report" link at the top menu. Click the "View/Edit" icon for a source, and then click "Source" on the left panel.

6.1 Source Form

The Source Form collects basic information about the facility, which includes location and ownership. All sources, both stationary and portable, should complete only one Source Form.

For facilities that submitted a NAEIS report during a previous year, this form should be entirely pre-filled with the most recent previous year data. If information has changed or needs to be updated, edit the appropriate fields. If all the information is accurate and no editing is necessary, continue to the next form – the Contact Form.

For facilities submitting a NAEIS report for the first time, this form will be partially completed. Follow the instructions for completing the required fields on the Source Form.

6.1.1 Source Form Completion Instructions

This form consists of two sections; the Source Identification section and the Owner Information section. Make sure that all the pre-filled information is correct. If all required fields are completed, continue to the Contact Form. If this form needs to be completed or fields need to be edited, follow the instructions below for completing the Source Identification and Owner Information Sections. Required fields are marked with asterisks (*).

6.1.2 Source Identification Section

Complete the required fields in this section if information needs to be updated or new information needs to be entered. Follow the steps below.

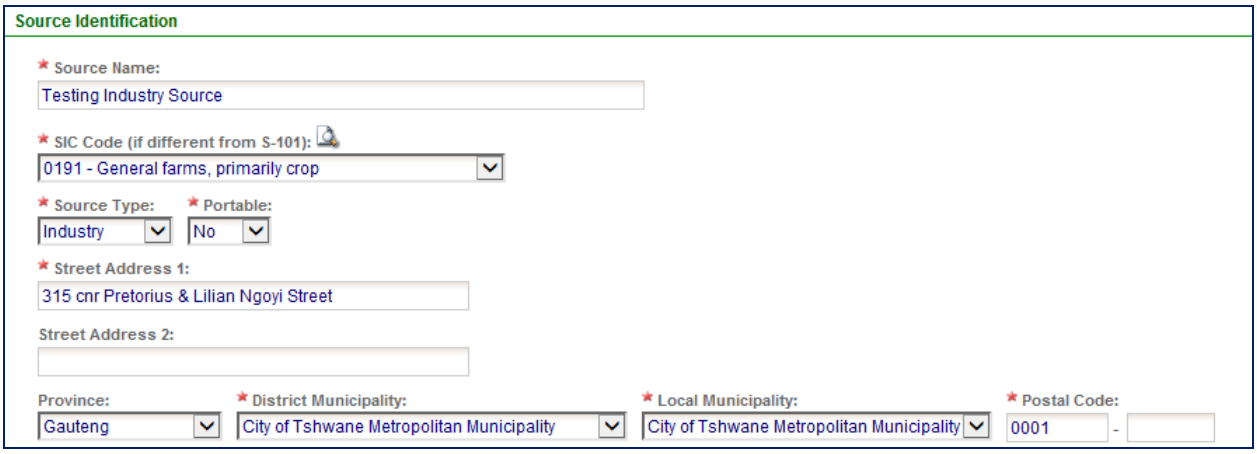


Figure 6-1: Source Identification Section

1. **Source Name**: Enter the name of the source. For portable sources, enter the name of the company that owns the portable source.

2. **SIC Code**: From the drop-down list, select the Source Industrial Classification code (SIC) that best describes the major product produced or service provided by your source (Figure 6-2). Users can elect to click the icon to search and select appropriate SIC Codes.

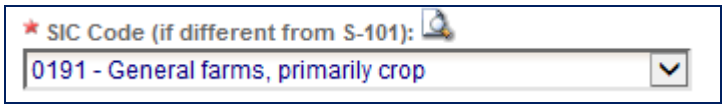


Figure 6-2 : SIC Code on Source Form

3. **Portable**: From the drop-down list, select "Yes" if the source is portable (e.g. asphalt batch plant). Select "No" if this is a stationary source.

4. **Source Address**

   Street Address 1: This is the street number and name where the source is located. Enter the address of the source where the equipment is located. For portable sources, enter the address of the home or main office.

   District/Metro Municipality: From the drop-down list, select the District/Metro Municipality where the source is located. For portable sources, select the District/Metro Municipality where the home or main office is located.

   Local Municipality: From the drop-down list, select the Local Municipality where the source is located. For portable sources, select the Local Municipality where the home or main office is located.

   Postal Code: Enter the Postal code. The postal code must represent the Local Municipality where the source is located. For portable sources, enter the postal code of the Local Municipality selected in the previous field.

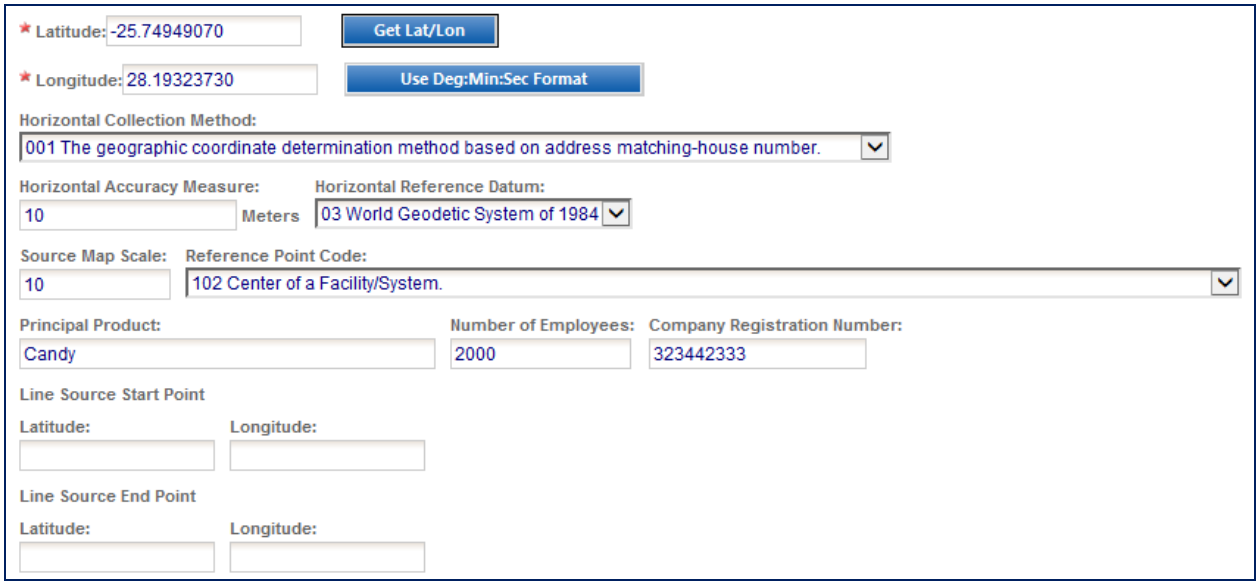


Figure 6-3: Source Identification Section (continued)

5. **Latitude**: Enter the source's latitude in decimal degrees or in Degree:Minute:Second format. Use the **Use Deg:Min:Sec Format** button to toggle the formats. If you do not know the source's latitude/longitude, use the Get Lat/Lon function by clicking the **Get Lat/Lon button**.

6. **Longitude**: Enter the source's Longitude in decimal degrees or in Degree:Minute:Second format. Use the **Use Deg:Min:Sec Format** button to toggle the formats. If you do not know the source's longitude, use the Get Lat/Lon function by clicking the **Get Lat/Lon button**.

When clicking **Get Lat/Long**, the map location will default by pointing to the address supplied in the same source form (Step 4). If no address is provided, the default drop pin will be the center of South Africa. You may choose to drag the drop pin around to get a more accurate latitude/longitude location.

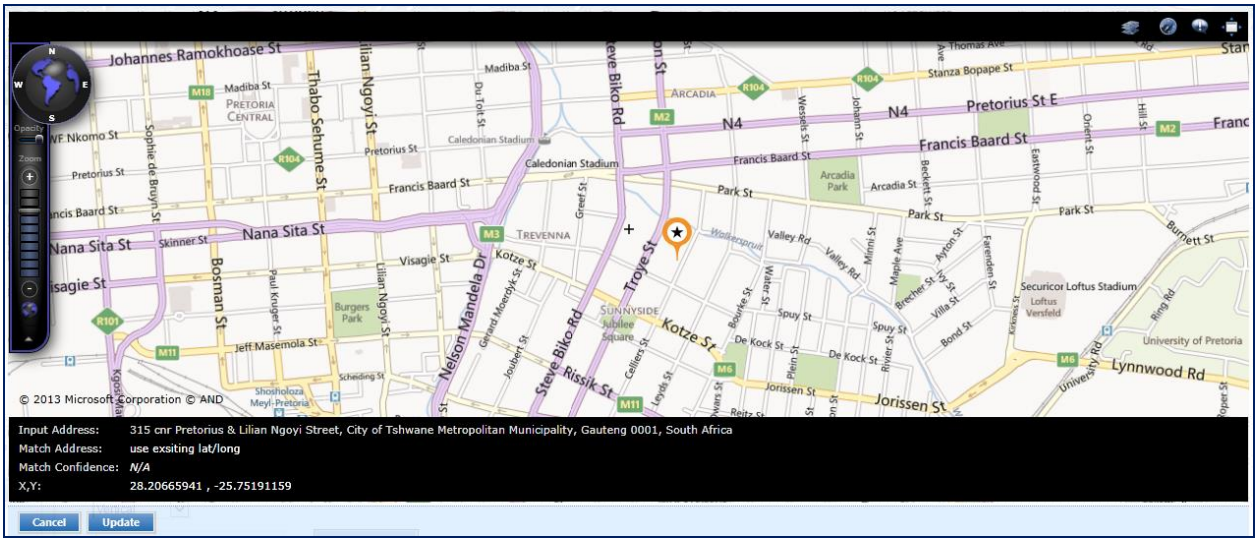


Figure 6-4. Get Latitude/Longitude by Map (Source).

After you are comfortable with the location of the drop pin, click the update button (Figure 6-4). You will then see the latitude/longitude pre-filled on the source form.

7. **Horizontal Collection Method**: From the drop-down list, select the collection method used to determine the latitude and longitude listed.

8. **Source Map Scale**: Enter the scale of the map used. This field is only required if the horizontal collection method code entered is "The geographic coordinate determination method based on interpolation-map."

9. **Horizontal Accuracy**: Enter the accuracy measure of the collection method and report in meters, based on the map or GPS used. If you are using a website, enter 25 meters.

10. **Horizontal Reference Datum**: From the drop-down list, select the datum code used to determine the latitude and longitude.

11. **Reference Point Code**: From the drop-down list, select the point that best describes the location where the latitude and longitude were taken. For instance, if you are using horizontal collection method code "The geographic coordinate determination method based on address matching-house number", reference point code "Entrance of a facility or station" may be used. If you are using a GPS, choose the point closest to where you were standing when reading the GPS, such as code "Center of a facility or station."

12. **Number of Employees**: Enter the average number of people employed at this location.

13. **Principal Product**: Enter the principal product produced at the source (e.g., "Platinum").

14. **Company Registration Number**: Enter the source's "Company Registration Number" that is tied to your Section 21 Obligations.

6.1.3 Owner Information Section

Complete the required fields in this section if information needs to be updated or new information needs to be entered.

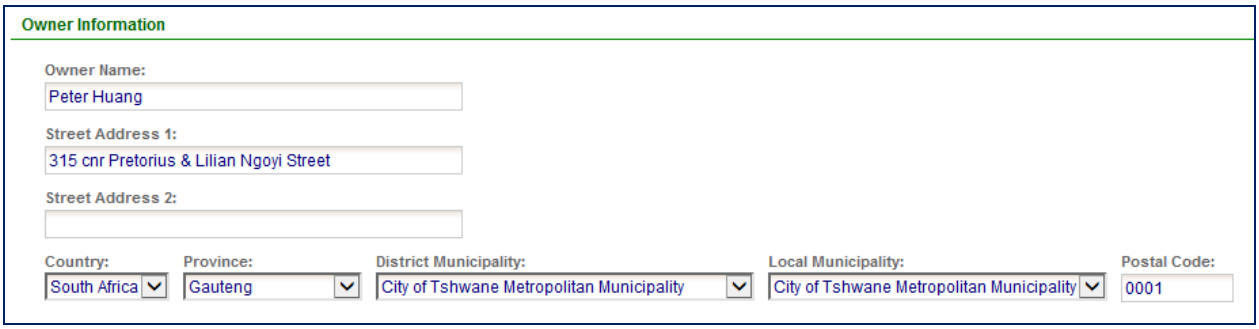


Figure 6-5: Owner Information Section

15. **Owner Name**: Enter the name of the owner of the source or the parent/holding company.

16. **Contact Address**: If the owner's address is different than the source address, complete these fields. Fill out the name and address exactly as it should appear on all correspondence.

6.2 Contact Form

The Contact Form collects information for the emission inventory contact person (primary and secondary). The emission inventory contact person is the person who the Authorities will call if they have questions about the submitted NAEIS information. In addition, the annual mailing in January will be sent to the emission inventory contact person, who is also the Accounting Officer. Information for a secondary contact person may be provided. It will be used by Authorities in case the primary contact person may not be available.

For facilities that submitted a NAEIS report in a previous year, this form should be entirely pre-filled. If information has changed or needs to be updated, edit the appropriate fields. If all the information is accurate and no editing is necessary, continue to the Stack Form.

6.2.1 Contact Form Completion Instructions

This form consists of two sections: one for the primary contact and one for the secondary contact. Make sure that all the pre-filled information is correct. If all required fields are completed, continue to the Stack form. If this form needs to be completed or fields need to be edited, follow the instructions below for completing the Emission Inventory Contact Form.

6.2.2 Emission Inventory Contact Section

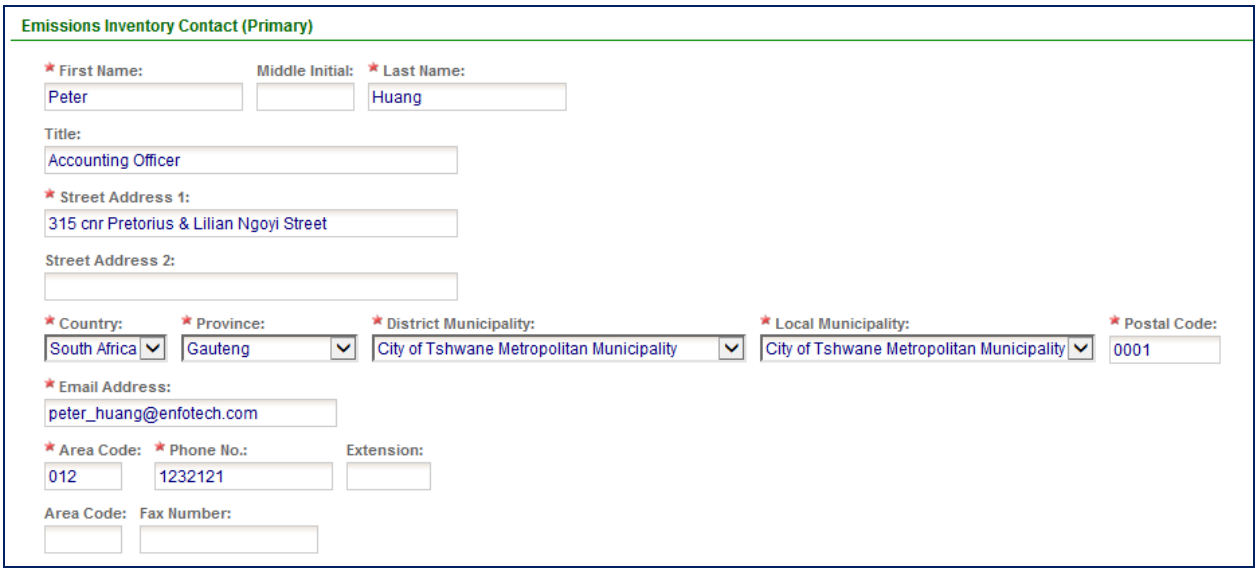


Figure 6-6: Primary Emission Inventory Contact Section

If existing information needs to be updated or new information needs to be entered, complete the required fields in this section. Follow the steps below.

1. **Primary Contact Information**: A source contact (the Facility Accounting Officer) must be identified. The address entered is where future NAEIS correspondence will be sent. Enter the name, mailing address, telephone number (including extension and fax number), and e-mail address.

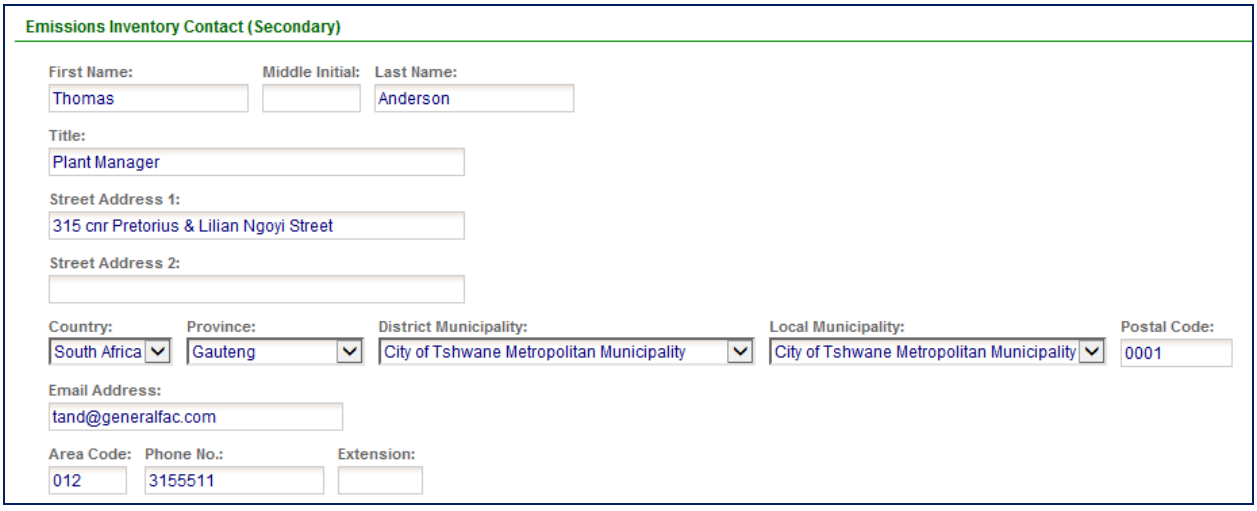


Figure 6-7: Secondary Emission Inventory Contact Section

2. **Secondary Contact Information**: A secondary contact may or may not be identified. This person must be a source contact. This address is where future NAEIS correspondence will be sent when the primary contact cannot be reached. Enter the name, mailing address, telephone number (including extension and fax number), and e-mail address.

6.3 Stack Form

The Stack Form collects information about stacks that are connected to emission units listed on the Emission Unit Form. If an existing stack that was entered during a previous year becomes decommissioned, it can be removed from NAEIS by clicking the "Delete" icon of this stack (see instructions below). However, this means that only the stack form does not have to be completed – all of the other NAEIS forms are still required. The emissions coming from the emission unit that was once linked to the stack must still be reported on the Emission form because the emissions are reported at the emission unit level, not at the stack level.

6.3.1 Stack Form Relationship to Other Forms

The stacks created in this form will be displayed as a selection in the drop-down list in the Emission Unit Stack(s) Section on the emission unit form.

6.3.2 Stack Form Completion Instructions

This form consists of one section: the Stack Identification section. If the stack was added during a previous year, this information will be pre-filled. If your source does not contain any stacks, you do not need to complete this form and may proceed to the Emission Unit form. If any existing/pre-filled information about any stack is incorrect, enter the correct information in the Stack Identification Section. Following is an explanation of each section of the Stack form, as well as step-by-step instructions on how to complete the required fields.

6.3.3 Stack Identification Section

Click the stack form option on the left panel to display the stack list web page (Figure 6-8). This page lists all the stacks in this source. Click the "View/Edit" icon to edit an existing stack, the "Delete" icon to delete an existing stack, or the "Add New Stack" to add a new stack for this source.

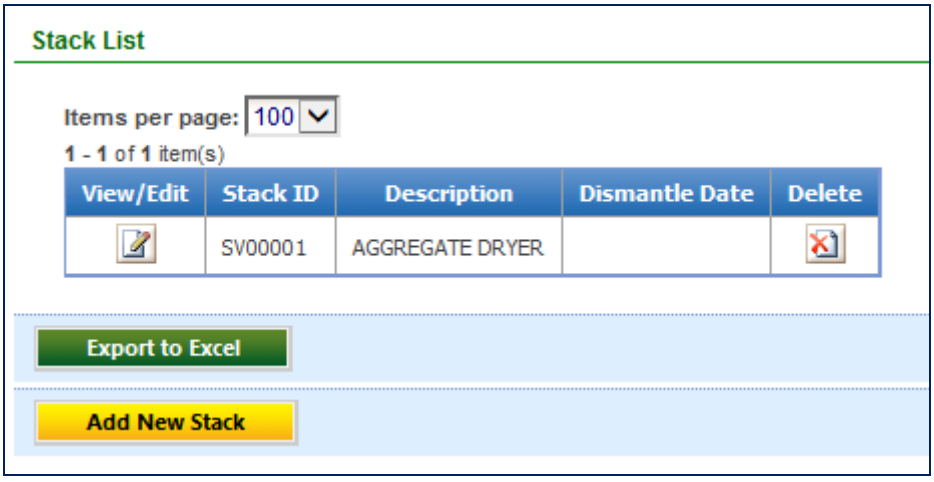


Figure 6-8: Stack List

If you choose to edit an existing stack or add a new stack, the stack detail page will display (Figure 6-9: Section of Stack IdentificationFigure 6-9).

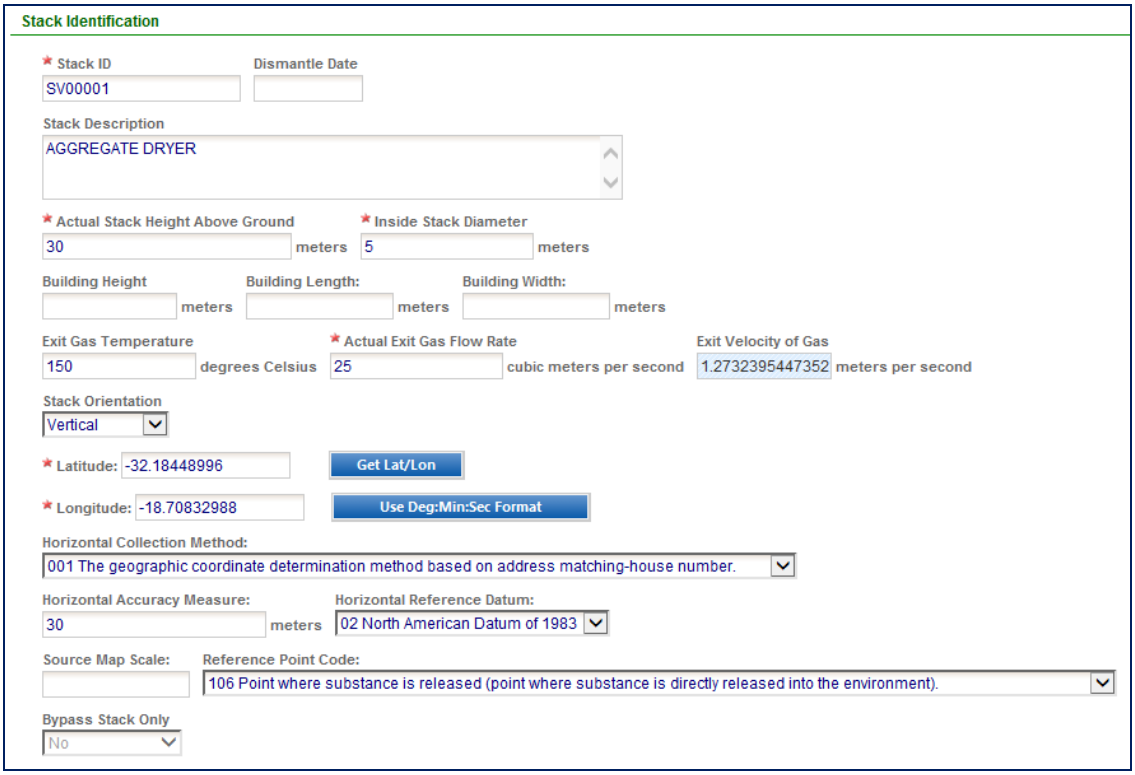


Figure 6-9: Section of Stack Identification

Complete the fields in this section for new stacks or to make changes to old information. Follow the steps below.

1. **Stack ID**: This is the Stack ID. Enter a unique ID for each stack that must be reported. Stack IDs begin with an "SV" prefix plus any combination of up to 14 letters, numbers, or keyboard characters. Spaces are not allowed within the ID. Stack IDs may have already been established in a Section 21 Permit. If so, be sure to use the ID that is in the permit. If a stack ID does not already exist, create an ID that is easy to associate with the stack that it represents (e.g. SVSTACK#1, SVBOILER#3).

2. **Dismantle Date**: If the stack was dismantled or rendered permanently inoperable during the reporting year, enter the date that this occurred. Although the stack has been dismantled, the following steps must still be completed. If a dismantle date is entered, do not delete this stack from the stack list because a dismantled stack may still require emissions reporting for this year. If this is a portable source, the dismantle date should be left blank.

3. **Stack Description**: Provide a brief description of the stack.

4. **Actual Stack Height Above Ground**: Enter the height of the stack in meters from the ground up to the discharge point.

5. **Building Height:** Enter the height of the building in which the stack resides.

6. **Building Length:** Enter the length of the building in which the stack resides.

7. **Building Width:** Enter the width of the building in which the stack resides.

8. **Inside Stack Diameter**: If the stack is circular, enter the inside top stack diameter. If the stack is rectangular, convert the area inside of the stack to a circular diameter using the following procedure:

   (a) Obtain the length and width in meters.

   (b) Calculate the area by multiplying the length times the width.

   (c) Divide the area by 3.14.

   (d) Take the square root of the value from step (c) to obtain the radius.

   (e) Calculate the diameter by multiplying the radius (from step [d]) by 2.

   (f) Enter the diameter (from step [e]) in item 5.

9. **Exit Gas Temperature**: Enter the stack exit gas temperature in degrees Celsius.

10. **Actual Exit Gas Flow Rate**: Enter the stack exhaust volume in actual cubic meters per second, at actual operating load and temperature.

11. **Stack Orientation**: From the drop-down list, select the most appropriate orientation.

12. For steps 15 through 19, smaller sources can use the same coordinate information that was entered on the source form. Larger sources should enter the specific coordinates for each stack. These fields are not required for portable sources.

13. **Latitude**: Enter the source's latitude in decimal degrees or in Degree:Minute:Second format. Use the "Use Deg:Min:Sec Format" button to toggle the formats. If you do not know the facility's latitude, use the "Get Lat/Lon" function by clicking the "Get Lat/Lon" button in the source form.

14. **Longitude**: Enter the source's Longitude in decimal degrees or in Degree:Minute:Second format. Use the "Use Deg:Min:Sec Format" button to toggle the formats. If you do not know the facility's longitude, use the "Get Lat/Lon" function by clicking "Get Lat/Lon" button in the source form.

When clicking **Get Lat/Long**, the map location will default by pointing to the address supplied in the source form in Section 5.1. If no address is provided, the default drop pin will be the center of South Africa. You may choose to drag the drop pin around to get a more accurate latitude/longitude location.

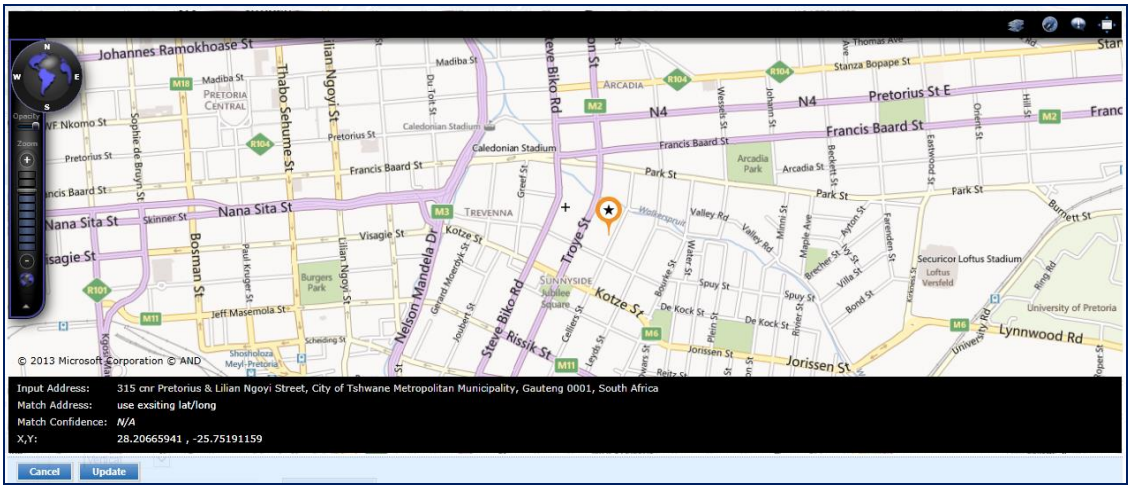


Figure 6-10: Get Latitude/Longitude by Map (Stack)

After you are comfortable with the location of the drop pin, click the update button (Figure 6-10). You will then see the latitude/longitude pre-filled on the source form.

15. **Horizontal Collection Method**: From the drop-down list, select the collection method used to determine the latitude and longitude listed.

16. **Source Map Scale**: Enter the scale of the map used. This field is only required if the horizontal collection method code entered is "The geographic coordinate determination method based on interpolation-map."

17. **Horizontal Accuracy**: Enter the accuracy measure of the collection method and report in meters, based on the map or GPS used. If you are using a website, enter 25 meters.

18. **Horizontal Reference Datum**: From the drop-down list, select the datum code used to determine the latitude and longitude.

19. **Reference Point Code**: From the drop-down list, select the point that best describes the location where the latitude and longitude were taken. For instance, if using horizontal collection method code "The geographic coordinate determination method based on address matching-house number" reference point code "Point where substance is released" may be used. If using a GPS, choose the point closest to where you were standing when reading the GPS.

20. **Bypass Stack Only**: From the drop-down list, select "Yes" if this stack is used only when emissions are bypassing the emission control equipment. Otherwise, select "No." "No" is the default selection.

21. **If Yes, Main Stack ID**: If "Yes" was selected for Step 16, select the Stack ID of the stack that this vent bypasses. Otherwise, leave this field blank.

6.3.4 Adding a Stack

Follow the steps below to add a stack to your NAEIS report.

1. Click "Add New Stack" in the stack list (Figure 6-8).
2. A new stack form will be displayed for you to complete (Figure 6-9).
3. Follow Steps 1 – 21 in the Form Completion Instructions.

6.3.5 Deleting a Stack

If you have stack information that you would like to delete, follow the steps below.

1. In the stack list, click the "Delete" icon to delete a stack.
2. If this stack is newly added this year, the stack will be directly deleted. If this stack has been reported in a previous reporting year, follow the instructions in the pop-up window to delete this stack.

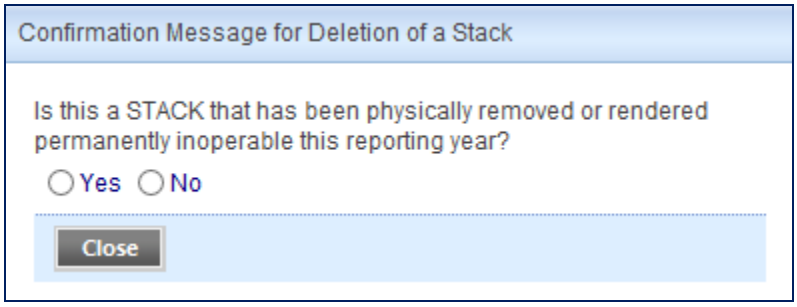

Confirmation Message for Deletion of a Stack
Is this a STACK that has been physically removed or rendered permanently inoperable this reporting year?
Yes
No
Close

Figure 6-11: Pop-up Window 1 when deleting a stack

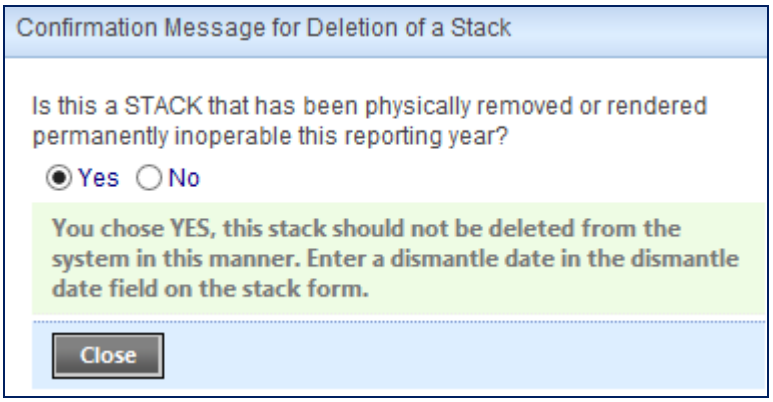

Confirmation Message for Deletion of a Stack
Is this a STACK that has been physically removed or rendered permanently inoperable this reporting year?
Yes
No
You chose YES, this stack should not be deleted from the system in this manner. Enter a dismantle date in the dismantle date field on the stack form.
Close

Figure 6-12 : Pop-up Window 2 when deleting a stack

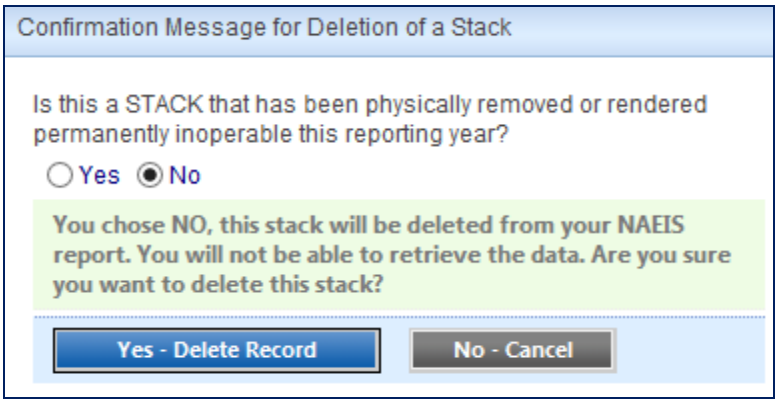

Confirmation Message for Deletion of a Stack
Is this a STACK that has been physically removed or rendered permanently inoperable this reporting year?
Yes
No
You chose NO, this stack will be deleted from your NAEIS report. You will not be able to retrieve the data. Are you sure you want to delete this stack?
Yes - Delete Record
No - Cancel

Figure 6-13: Pop-up Window 3 when deleting a stack

6.4 Emission Unit Form

The Emission Unit Form identifies and describes a facility's emission units. Emission units that were entered during previous reporting periods will be pre-filled. If you have an emission unit at your facility that is not already included on the emission unit form, it may need to be added. Use the guidelines on the following pages to help you determine which emission units at your facility need to be reported.

6.4.1 Emission Unit Form Relationship to Other Forms

For each emission unit entered on the emission unit Form, an activity form is automatically generated. In addition, the user may link stack IDs (that were created on the stack form) to the emission unit in the Emission Unit Stack(s) Section.

6.4.2 Emission Unit Form Completion Instructions

The Emission Unit form consists of six sections:

- Emission Unit List section,
- Emission Unit Identification section,
- Capacity Information section,
- Permit Applicability Section,
- Control Device(s) section,
- Emission Unit Stack(s) section.

If an emission unit was added to your facility during the reporting period and it must be reported, add it to the emission unit form by clicking the "Add New Emission Unit" button.

For emission units that were added in previous years, the information will already be pre-filled. If any information has changed or needs to be updated, edit the appropriate fields. If no emission units were added during the reporting period and if all the information that is pre-filled is still accurate, you do not have to complete this form and you may proceed to the reporting group or activity form (Section 5.5 and 5.6).

Following is an explanation of each section of the emission unit form, as well as step-by-step instructions on how to complete the required fields.

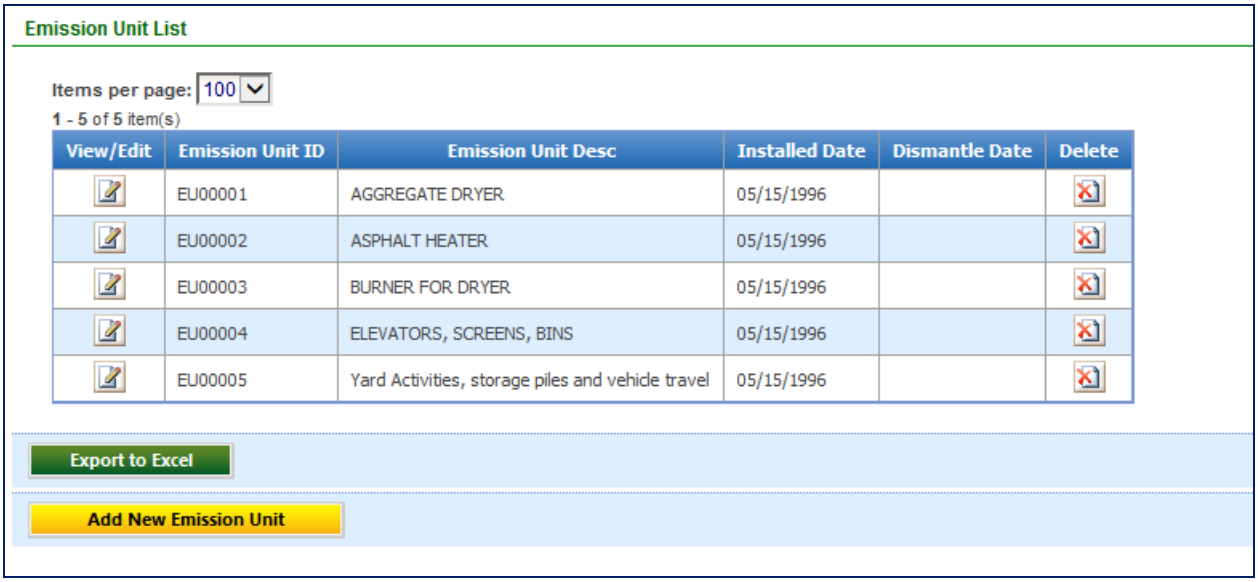


Figure 6-14: Emission Unit List

6.4.3 Emission Unit List Section

This section lists all the reported emission units in this source. Click the "View/Edit" icon to edit an emission unit, the "Delete" icon to delete an emission unit, or the "Add New Emission Unit" button to add a new emission unit.

Click the "View/Edit" icon to access other sections of this emission unit form.

6.4.4 Emission Unit Identification Section

Complete the fields in this section for new emission units or to make changes to the previous year's report. Follow the steps below.

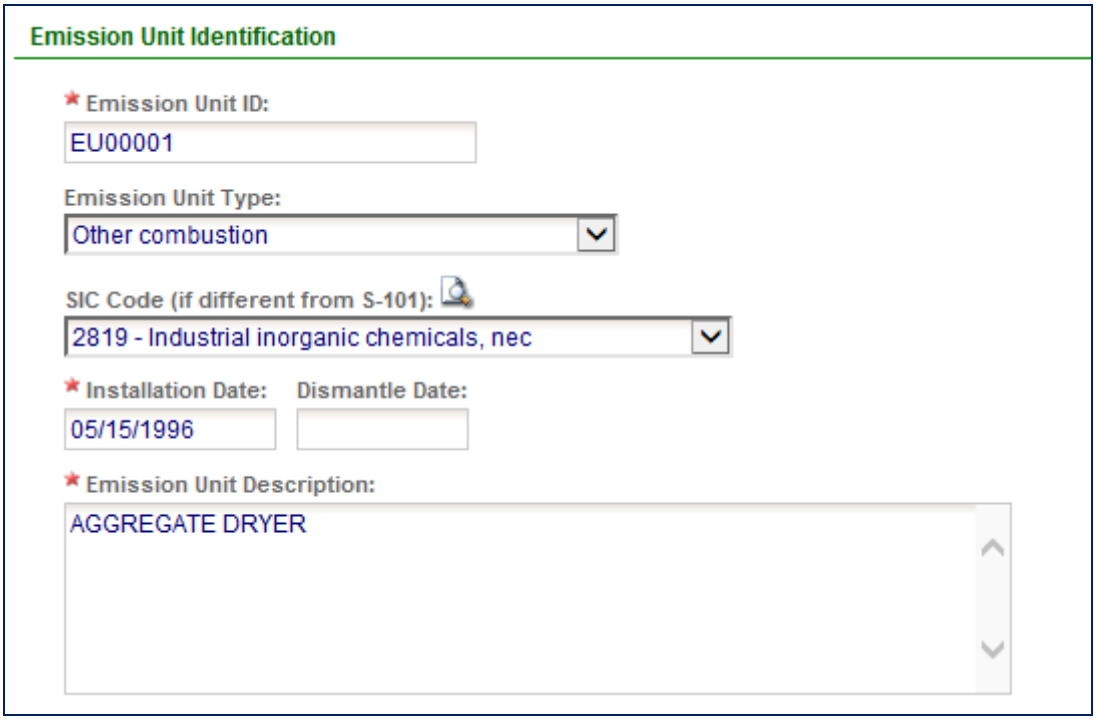


Figure 6-15: Emission Unit Identification Section

1. **Emission Unit ID**: Enter a unique ID for this emission unit. Emission unit IDs must begin with an "EU" prefix plus any combination of up to 14 letters, numbers, or keyboard characters. Spaces are not allowed within the ID. Make the emission unit ID specific and easy to associate with the emission unit(s) it represents (e.g. EUPAINTBOOTHS, EUBOILER#2).

2. **SIC Code**: From the drop-down list, select the Source Identification Code (SIC) that best describes the major product produced or service provided by your source. Users can elect to click the icon to search and select appropriate SIC Codes.

3. **Installation Date**: Enter the date that the emission unit was first installed using the date format provided (MM/DD/YYYY).

4. **Dismantle Date**: If the emission unit was dismantled or rendered permanently inoperable during the reporting year, enter the date that this occurred. Although the emission unit has been dismantled, the remaining fields must still be completed. If this is a portable source, the dismantle date should be left blank. Do not complete this field if it is not applicable to the emission unit.

5. **Emission Unit Description**: Enter a brief narrative description of the emission unit. Make sure that this description is specific and will help to identify the emission unit, especially if there are several emission units that are alike.

6.4.5 Capacity Information Section

Complete the fields in this section for new emission units or to make changes to the previous year's report. Follow the steps below.

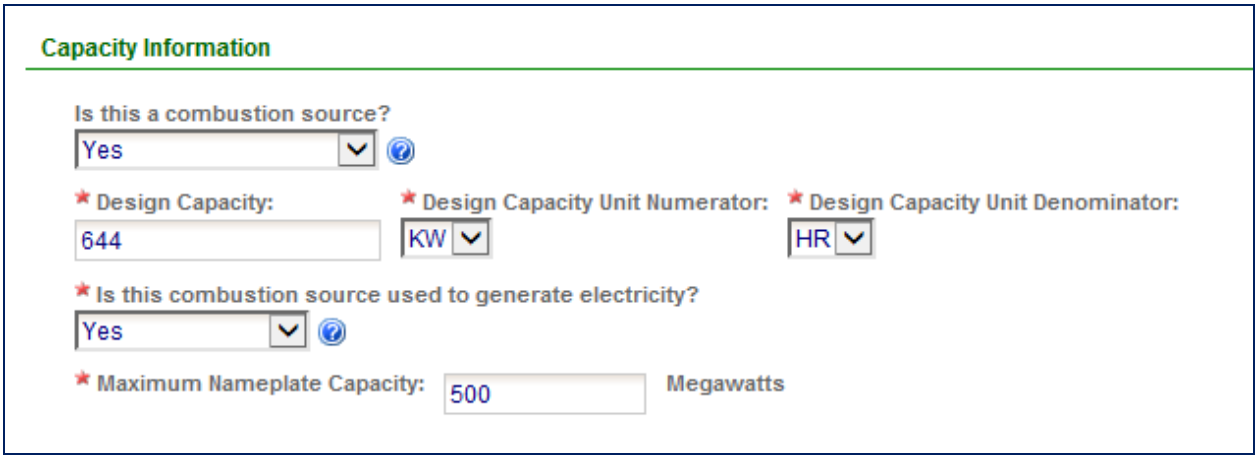


Figure 6-16 : Capacity Information Section

6. **Is this a Combustion Source**: If the emission unit is a combustion source, choose Yes from the drop-down list. If "No" is chosen, please ignore steps 7-10.

7. **Design Capacity**: Only complete this field if the emission unit is a combustion source. Enter the design capacity.

8. **Design Capacity Numerator and Denominator**: Only complete these fields if you completed the Design Capacity field in Step-7

   - Design Capacity Unit Numerator: Choose the appropriate code from the Unit Code drop-down list.
   - Design Capacity Unit Denominator: Choose the appropriate code from the Unit Code drop-down list.

9. **Is this combustion source used to generate electricity**: Choose "Yes" if this emission unit is used to generate electricity. If "No" is chosen, please ignore step 10.

10. **Maximum Nameplate Capacity**: Only complete this field if this emission unit is used to generate electricity. Report the electric generator's rated design capacity at 100% (maximum) operation in megawatts.

6.4.6 Control Device Section

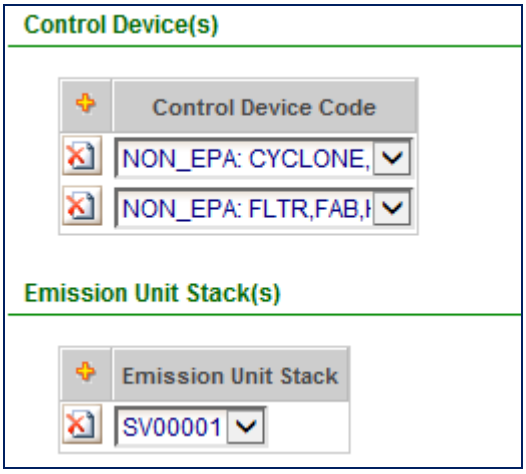


Figure 6-17 : Control Device and Emission Unit Stack Section

11. **Control Device Code**: If there is a control device associated with the emission unit, select the most appropriate control device from the drop-down list.

    If there is more than one control device, additional control device codes may be added. Follow the steps below to add a control device.

    (a) After the first control device code has been selected, click the "+" icon in the grid view.
    (b) Another drop-down field will appear. Select another control device.

6.4.7 Emission Unit Stack Section

12. **Stack ID**: Click on this field and a drop-down list will appear containing the Stack ID's that were created on the stack form. If a stack that was reported on the stack form is associated with the emission unit, select the appropriate Stack ID. Every Stack ID that was created on the stack form must be listed on at least one emission unit form.

    If more than one reported stack is associated with the emission unit, additional Stack IDs may be added. Follow the steps below to enter additional Stack IDs.

    (a) After the first Stack ID has been selected, Click the "+" icon in the grid view.
    (b) Another field will appear. Select another Stack ID.

6.4.8 Adding an Emission Unit

Follow the steps below to add an emission unit to your NAEIS report.

1. Click "Add New Emission Unit" in the emission unit list (Figure 6-14).
2. A new emission form will be displayed for you to complete (Figure 6-15 - Figure 6-17)
3. Follow Steps 1 – 12 in the Form Completion Instructions.

6.4.9 Deleting an Emission Unit

If you want to delete emission unit information, follow the steps below.

1. In the emission list (Figure 6-14), click the "Delete" icon to delete an emission unit.

2. If this emission unit was newly added this year, it will be directly deleted. If this emission unit has been reported in a previous reporting year, follow the instructions in the pop-up window to delete this emission unit.

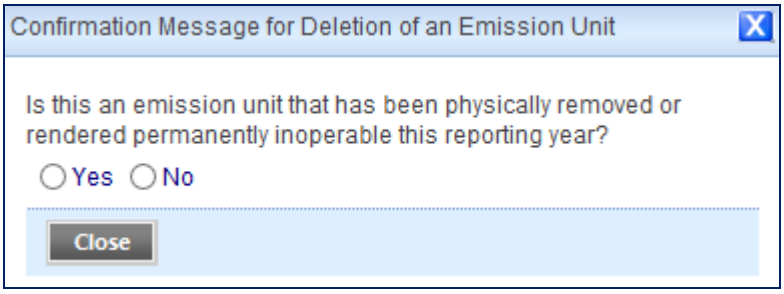

Confirmation Message for Deletion of an Emission Unit
Is this an emission unit that has been physically removed or rendered permanently inoperable this reporting year?
Yes
No
Close

Figure 6-18 : Pop up Window when deleting an emission unit

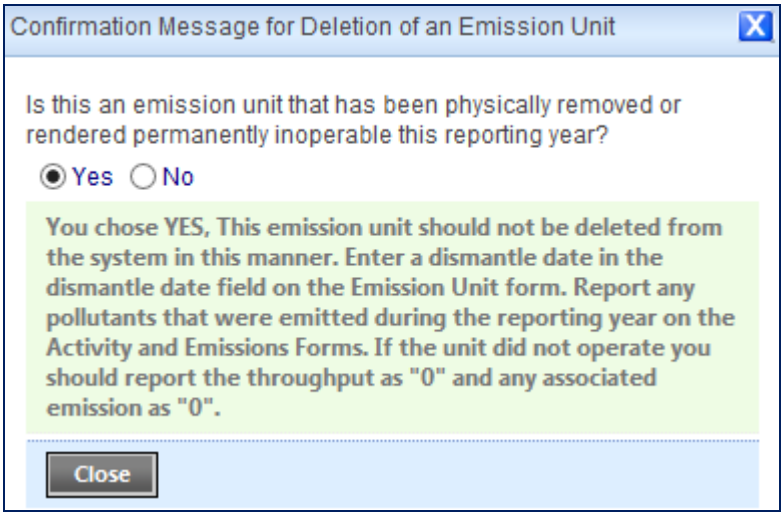

Confirmation Message for Deletion of an Emission Unit
Is this an emission unit that has been physically removed or rendered permanently inoperable this reporting year?
Yes
No
You chose YES, This emission unit should not be deleted from the system in this manner. Enter a dismantle date in the dismantle date field on the Emission Unit form. Report any pollutants that were emitted during the reporting year on the Activity and Emissions Forms. If the unit did not operate you should report the throughput as "0" and any associated emission as "0".
Close

Figure 6-19: Pop-up Window 2 when deleting an emission unit

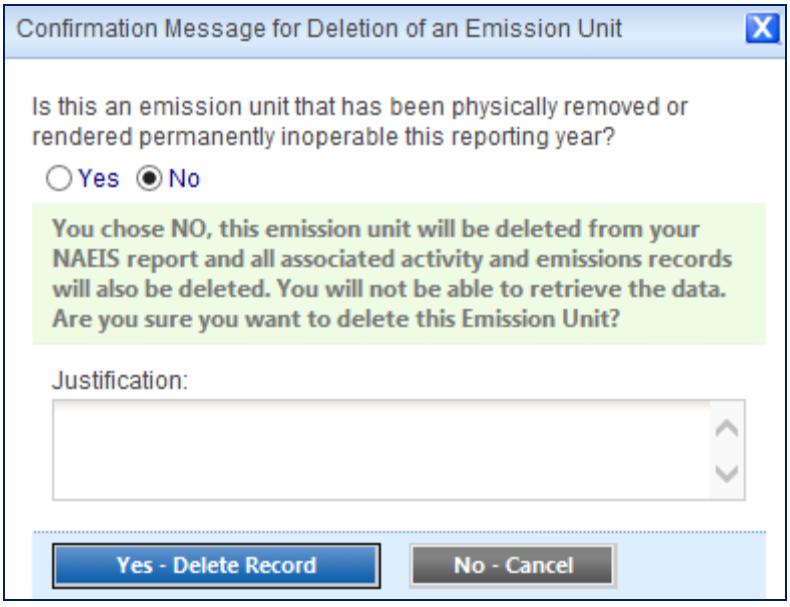

Confirmation Message for Deletion of an Emission Unit
Is this an emission unit that has been physically removed or rendered permanently inoperable this reporting year?
Yes
No
You chose NO, this emission unit will be deleted from your NAEIS report and all associated activity and emissions records will also be deleted. You will not be able to retrieve the data. Are you sure you want to delete this Emission Unit?
Justification:
Yes - Delete Record
No - Cancel

Figure 6-20 : Pop-up Window when deleting an emission unit

6.5 Reporting Group Form

The Reporting Group Form is used to combine emission units into reporting groups to simplify emission calculations. THIS IS AN OPTIONAL FORM – facilities are not required to create reporting groups. However, for some facilities, reporting emissions at the reporting group level may be easier than at the emission unit level if multiple emission units have common emission limits and record keeping requirements. If this form is used, the Activity form and the Emissions form must be completed at the reporting group level.

6.5.1 Reporting Group Form Completion Instructions

If a reporting group was created during a previous reporting year, the fields in this form should be pre-filled. Check to ensure that all the information is accurate. If any information needs to be changed, follow the instructions below and edit the appropriate fields. If you would like to add or delete a reporting group, see the instructions below.

6.5.2 Reporting Group List

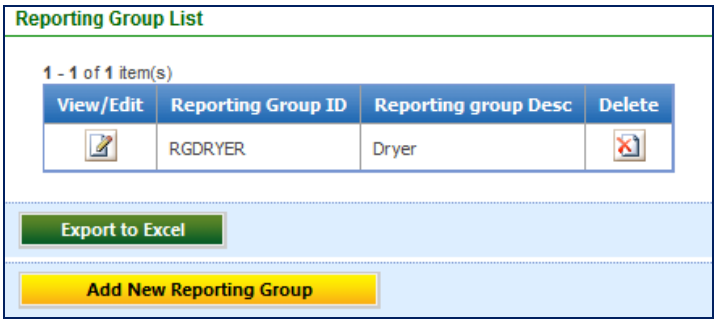


Figure 6-21: Reporting Group List

This section lists all the reporting groups in this source. Click the "View/Edit" icon to edit a reporting group, the "Delete" icon to delete a reporting group, or the "Add New Reporting Group" button to add a new reporting group.

Click the "View/Edit" icon to access other sections of this reporting group form.

6.5.3 Reporting Group Identification

Complete the fields in this section for new reporting groups or to make changes to the previous year's report. Follow the steps below.

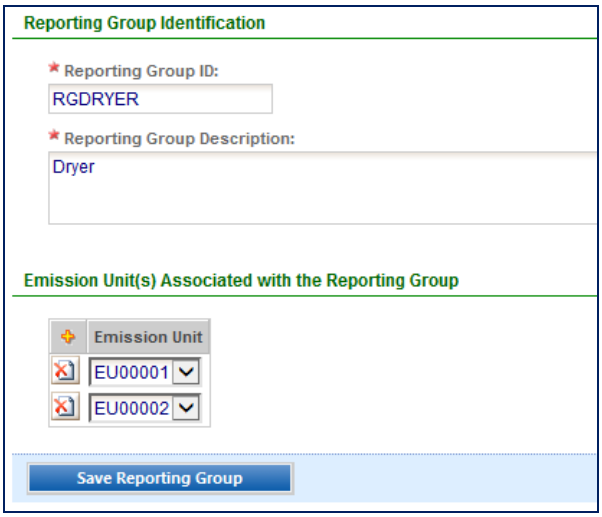


Figure 6-22: Reporting Group Form

1. **Reporting Group ID**: Enter a unique ID for this reporting group. Reporting Group IDs must begin with an "RG" prefix plus any combination of up to 14 letters, numbers, or keyboard characters. Spaces are not allowed within the ID. Make the reporting group ID specific and easy to associate with the reporting group it represents (e.g. RGBOILERS).

2. **Reporting Group Description**: Provide a brief narrative description of the reporting group.

6.5.4 Reporting Group Emission Units Section

3. **Emission Unit ID**: To add an emission unit to this list, click the "+" sign in the grid view, the select the emission unit ID to be included in this reporting group. Repeat this step to add more emission units. Click the "x" sign to delete an emission unit from this reporting group.

6.6 Activity and Emission Form

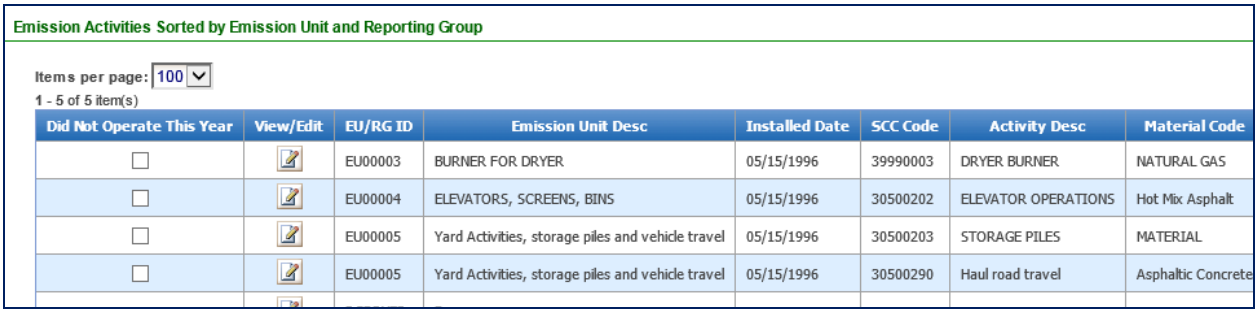
The Activity Form describes operating schedules and material information for an emission unit or reporting group. One activity form must be completed for each reporting group and each emission unit that is not part of a reporting group.

6.6.1 Activity Form Completion Instructions

The activity form consists of three sections: the Emission Unit and Reporting Group List section, the Activity Information section, and the Material Information section. For portable sources, the form also includes a section of Portable Material Usage Schedule.

All activity information that was entered for emission units in previous years will be pre-filled, except the material throughput information. This is a required field that must be updated every reporting year. If any other information needs to be updated, edit the proper fields. If no other information needs to be added and if all the information that is pre-filled is still accurate, all you have to do is enter the proper material throughput information for each activity and move on to the emission form (discussed in later sections in this page). Following is an explanation of each section of the activity form, as well as step-by-step instructions on how to complete the required fields.

6.6.2 Emission Unit and Reporting Group List Section


Emission Activities Sorted by Emission Unit and Reporting Group

Items per page: 100

1 - 5 of 5 item(s)

Did Not Operate This Year	View/Edit	EU/RG ID	Emission Unit Desc	Installed Date	SCC Code	Activity Desc	Material Code
☐		EU00003	BURNER FOR DRYER	05/15/1996	39990003	DRYER BURNER	NATURAL GAS
☐		EU00004	ELEVATORS, SCREENS, BINS	05/15/1996	30500202	ELEVATOR OPERATIONS	Hot Mix Asphalt
☐		EU00005	Yard Activities, storage piles and vehicle travel	05/15/1996	30500203	STORAGE PILES	MATERIAL
☐		EU00005	Yard Activities, storage piles and vehicle travel	05/15/1996	30500290	Haul road travel	Asphaltic Concrete

Figure 6-23: Activity List

This section lists all the activities in this source. Click the "View/Edit" icon to edit an activity, or the "Delete" icon to delete an activity.

If the SCC Code for an emission unit or a report group is blank, there is currently no activity in this emission unit or reporting group. To add an activity for this emission unit or reporting group, click the "View/Edit" icon to enter Activity and Emission Details (Figure 6-24) and then click the "Add New Activity" button to add an activity.

Emission Calculation: Click "Calculate Emissions" in this view to calculate emissions for all emission units and reporting groups in this source.

6.6.3 Activity Information Section

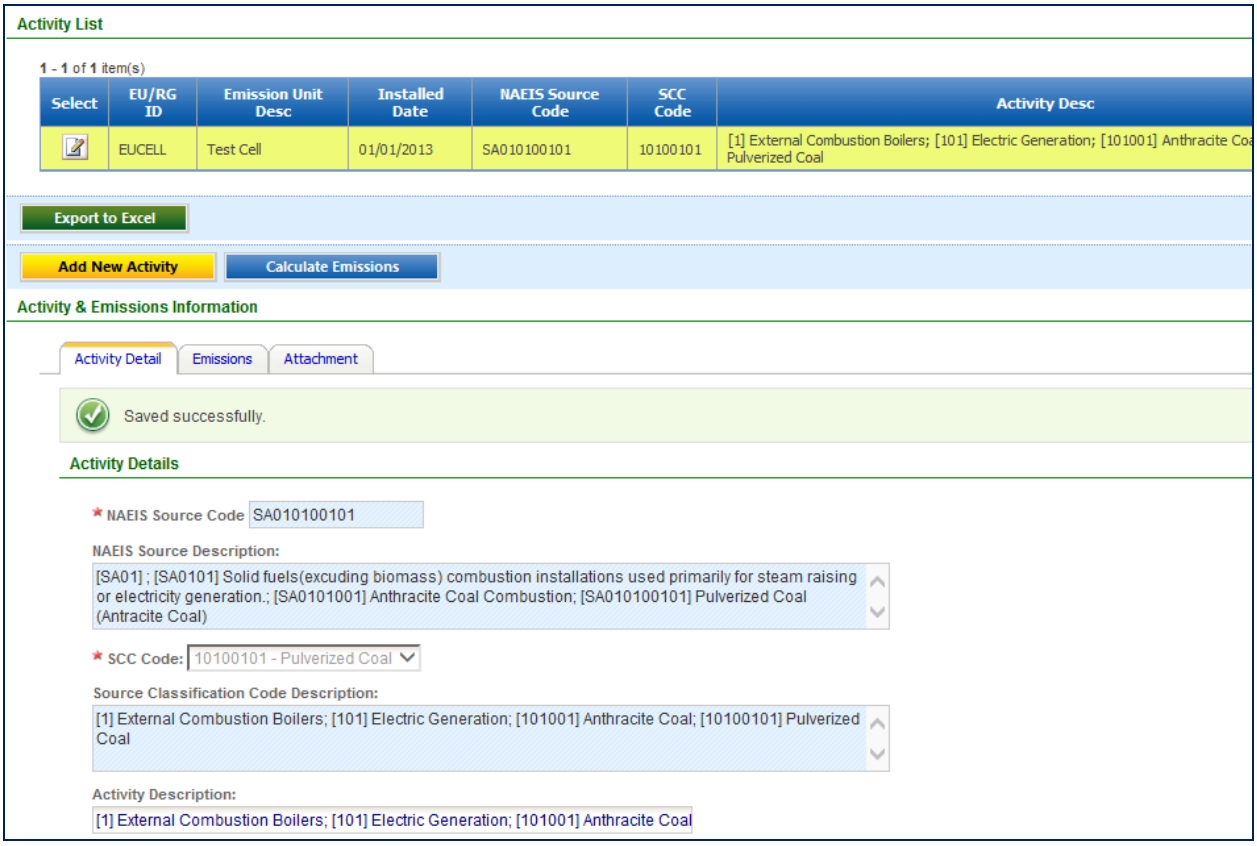


Figure 6-24: Activity and Emission Details (Part a)

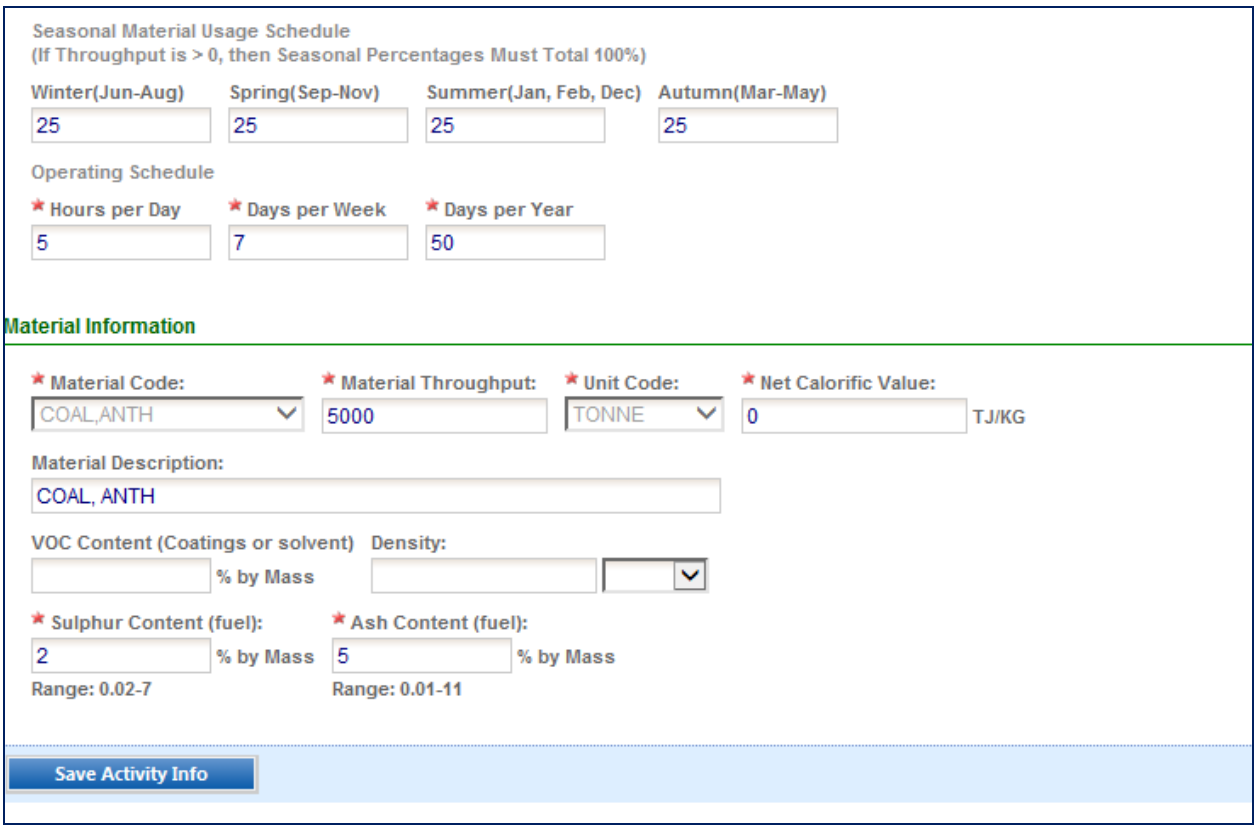


Figure 6-25: Activity and Emission Details (Part b)

Every source must complete one of these sections for each activity associated with the emission unit or reporting group displayed in the emission unit and reporting group list (Figure 6.23)

1. **NAEIS Source Code:** The NAEIS Source Code is a set of codes developed by the South African Department of Environmental Affairs that contain and describes the process for creating emission in an emission unit or reporting group. For licensed sources, these will be your Section 21 codes. For a new activity, Click on the "+" icon (Figure 6-26) and a listing of all NAEIS Source Codes (NSC) will appear (Figure 6-27). Select the NSC that most accurately describes the activity from the drop-down list. If more than one activity takes place at the emission unit or reporting group, select an NSC for each of the activities that take place at the emission unit/reporting group. To add a new activity, simply click the "Add New Activity" button (Figure 6-24).

Figure 6-26: NAEIS Source Code Information

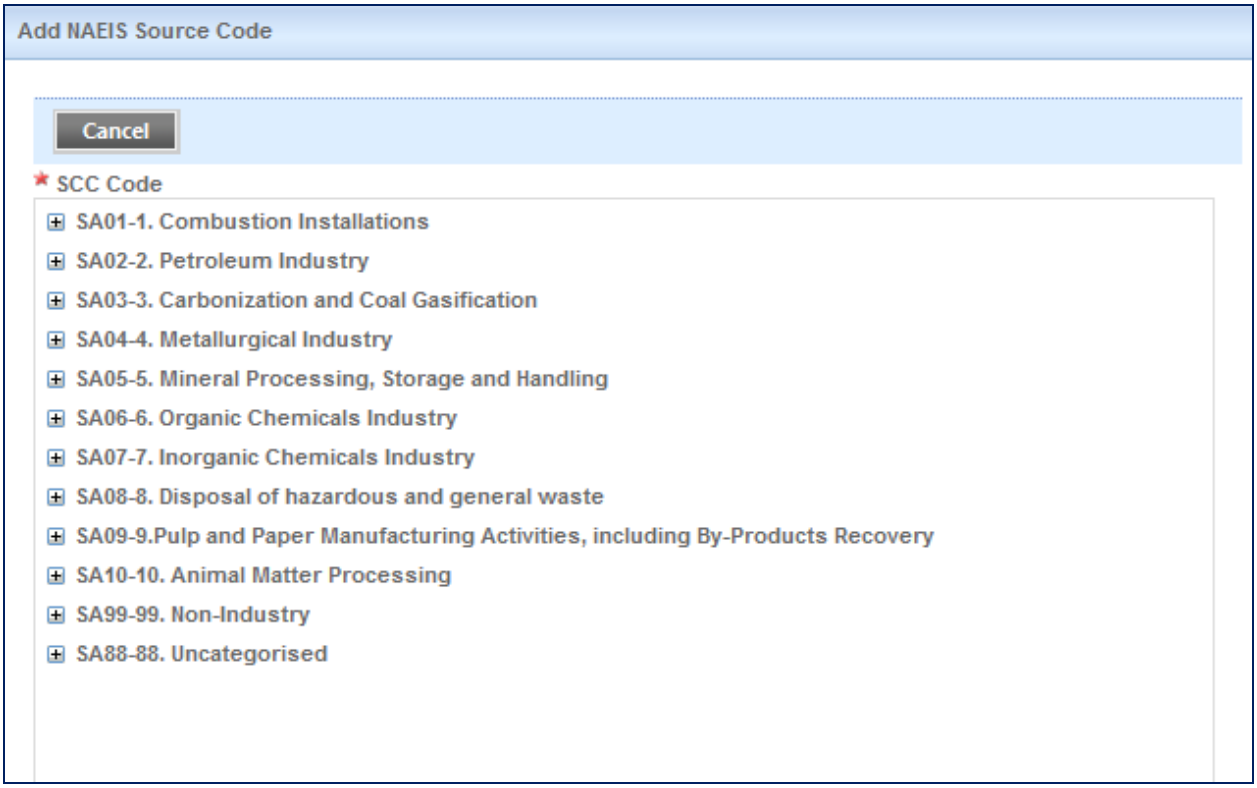


Figure 6-27: NAEIS Source Code List

2. **SCC Code**: Once a NSC is selected, a sub-set of Source Classification Codes (SCC) will appear. The Source Classification Code (SCC) is an eight-character code linked to the NAEIS Source code and may or may not further describe the process selected in step 1.

NAEIS Source Code SA010100204
* SCC Code: 10100204 - Spreader Stoker (Bituminous Coal)
NAEIS Source Code SA060100102
* SCC Code: 40700402 - Acetic Anhydrides: Working Loss

Figure 6-28: NSC to SCC Code Relationship

3. **Activity Description**: Provide a brief description for the process that best represents this activity. You may use the description that is provided in the read-only field "Source Classification Code Description".
4. **Seasonal Material Usage Schedule**: Enter the percentage of material used per season. The total of all four seasonal percentages must equal 100%.
5. **Hours per Day**: Enter the hours this emission unit or reporting group normally operates per day based on an annual average.
6. **Days per Week**: Enter the days this emission unit or reporting group normally operates per week based on an annual average.

7. **Days per Year**: Enter the days this emission unit or reporting group operated over the reporting year.

6.6.4 Material Information Section

Complete this section for the material identified for the NSC and SCC in Step 1.

8. **Material Code**: This field is automatically pre-filled if the NSC-SCC Combination selected has a material associated with it. If this field is not pre-filled, it means the NSC-SCC Combination selected does not have a material associated with it. Click on the field and a drop-down list with a selection of material codes will be displayed. Select the most appropriate material for the NSC-SCC Combination. To make your search easier you may want to refer to the Material Code section in System Utilities Module.
9. **Material Throughput**: Enter the amount of material identified in Step 8 that was processed, produced, applied, or combusted during the reporting year. For example, if "Coating" is identified in the Material Code field, enter how many liters (L) were applied during the reporting year. Be sure that the throughput entered in this field matches the unit code pre-filled or selected in Step 10.
10. **Unit Code**: This field should be pre-filled if Step 1 and Step 9 were completed.
11. **Material Description**: Provide a brief description of the material that is processed, produced, applied, or combusted.
12. **VOC Content**: This field is only required if the material is a coating or solvent. Enter the weight percent of the volatile organic compounds (VOC) contained in the throughput material, "as applied." "As applied" refers to the composition of the throughput material at the point of application. If thinners are added to the throughput material, the VOC content of the thinner must be considered when calculating the weight percent of VOC "as applied."
13. **Density**: Density is required for materials that have a mass throughput. In the first field, enter the density of the throughput material at standard temperature and pressure. Click on the second field and a drop-down list with unit options will appear.
14. **Sulfur Content**: This field is required only if the material identified in Step 8 is a fuel. Enter the sulfur content in mass percent. Please consult the National DEA Air Quality and Climate Control Office for a list of ranges.
15. **Ash Content**: This field is required only if the material identified in Step 8 is a fuel. Enter the ash content in mass percent. Please consult the National DEA Air Quality and Climate Control Office for a list of ranges.

6.6.5 Portable Material Usage Schedule

If this is a portable source, the activity form will have an additional section: Portable Material Usage Schedule (Figure 6-29).

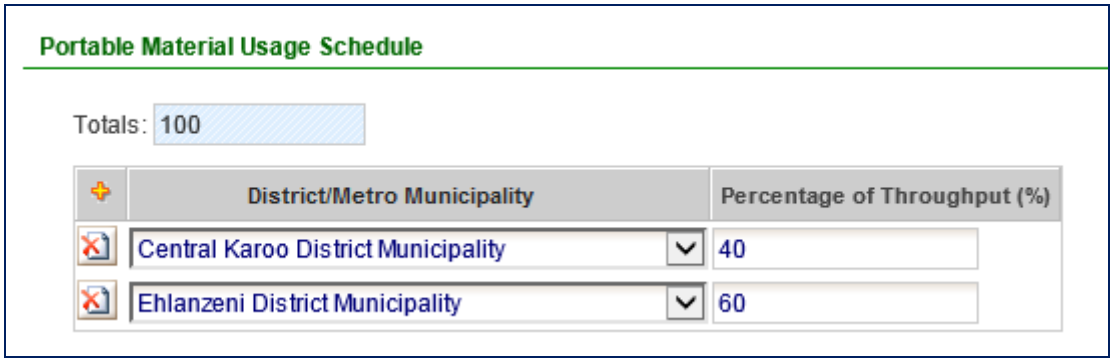


Figure 6-29: Portable Material Usage Schedule Section

16. **District/Metro Municipality**: Click the "+" icon to add a new District/Metro Municipality, or click the "x" icon to delete a District/Metro Municipality from the list.
17. **Percentage of Throughput**: Enter the percentage of throughput for each District/Metro Municipality for the process listed above. The totals of these percentages must equal 100%.

Emission Calculation: Click the "Calculation Emissions" button in Figure 6-24 to calculate all emissions under this emission unit or reporting group, depending on which activity is selected.

The Emissions Form is used to report all emissions of criteria pollutants and any other pollutants relevant to the process. An emissions record must be completed for each emission unit or reporting group identified on the emission unit and reporting group forms.

Click the "Emissions" tab to display the emission list (Figure 6-30)

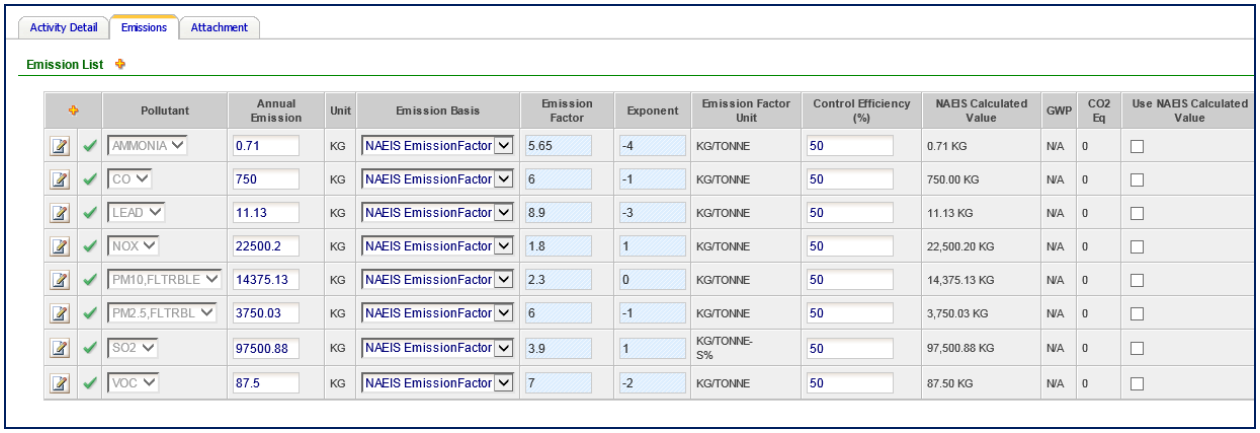
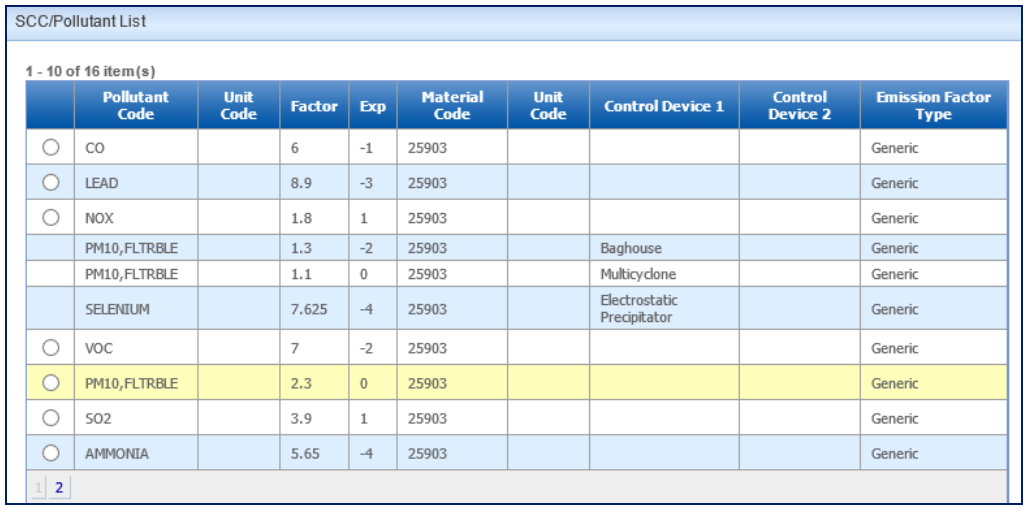

Activity Detail
Emissions
Attachment
Emission List
Pollutant
Annual Emission
Unit
Emission Basis
Emission Factor
Exponent
Emission Factor Unit
Control Efficiency (%)
NAEIS Calculated Value
GWP
CO2 Eq
Use NAEIS Calculated Value
AMMONIA 0.71 KG NAEIS EmissionFactor 5.65 -4 KG/TONNE 50 0.71 KG N/A 0
CO 750 KG NAEIS EmissionFactor 6 -1 KG/TONNE 50 750.00 KG N/A 0
LEAD 11.13 KG NAEIS EmissionFactor 8.9 -3 KG/TONNE 50 11.13 KG N/A 0
NOX 22500.2 KG NAEIS EmissionFactor 1.8 1 KG/TONNE 50 22,500.20 KG N/A 0
PM10,FLTRBLE 14375.13 KG NAEIS EmissionFactor 2.3 0 KG/TONNE 50 14,375.13 KG N/A 0
PM2.5,FLTRBL 3750.03 KG NAEIS EmissionFactor 6 -1 KG/TONNE 50 3,750.03 KG N/A 0
SO2 97500.88 KG NAEIS EmissionFactor 3.9 1 KG/TONNE-S% 50 97,500.88 KG N/A 0
VOC 87.5 KG NAEIS EmissionFactor 7 -2 KG/TONNE 50 87.50 KG N/A 0

Figure 6-30: Emission List

6.6.6 What Emissions Must Be Reported?

When a new activity is created, or when an activity having been reported in previous years is accessed for the first time this year, all the criteria pollutants are listed in the emission list. These pollutants are required to be reported.

To report more pollutants for this activity, in the Emission List (Figure 6-30), click the "+" icon next to "Emission List" label (in the **white** area, NOT in the **gray** area) to load the emission factor window (Figure 6-31).



SCC/Pollutant List

1 - 10 of 16 item(s)

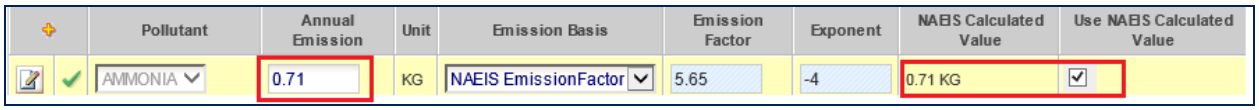
	Pollutant Code	Unit Code	Factor	Exp	Material Code	Unit Code	Control Device 1	Control Device 2	Emission Factor Type
○	CO		6	-1	25903				Generic
○	LEAD		8.9	-3	25903				Generic
○	NOX		1.8	1	25903				Generic
	PM10,FLTRBLE		1.3	-2	25903		Baghouse		Generic
	PM10,FLTRBLE		1.1	0	25903		Multicyclone		Generic
	SELENIUM		7.625	-4	25903		Electrostatic Precipitator		Generic
○	VOC		7	-2	25903				Generic
○	PM10,FLTRBLE		2.3	0	25903				Generic
○	SO2		3.9	1	25903				Generic
○	AMMONIA		5.65	-4	25903				Generic

1 2

Figure 6-31: Emission Factor Table with SCC Code and Pollutant List

In the SCC/Pollutant List (see Figure 6-31), some of the criteria pollutants have additional emission factors that do not have a radio button. These are "controlled" emission factors, which are used to calculate default control efficiency. These entries will be pre-populated if you select a control device on the emission unit level. The system will not allow you to select a "controlled" emission factor.

To calculate emissions for this process, click the "Calculate Emission" button in the emission list. When the calculation is completed, the "System Calculated Value" column will be populated in the grid view. If the system-calculated value is verified to be correct, click the checkbox under "Use System Calculated Value" to auto-fill the other fields of each emission (Figure 6-32).



	Pollutant	Annual Emission	Unit	Emission Basis	Emission Factor	Exponent	NAEIS Calculated Value	Use NAEIS Calculated Value
	AMMONIA	0.71	KG	NAEIS EmissionFactor	5.65	-4	0.71 KG	☑

Figure 6-32: Use System Calculated Value for Emission

Beside each pollutant name in the emission list, there is an icon. Click this icon to enter emission form for each emission (Figure 6-33).

6.6.7 Emission Form Completion Instructions

The emission form consists of emission details. No fields on this form have been carried over from the previous year's submittal. Annual emissions values of all required pollutants must be completed. Following is an explanation of each section of the emission form as well as step-by-step instructions on how to complete the required fields.

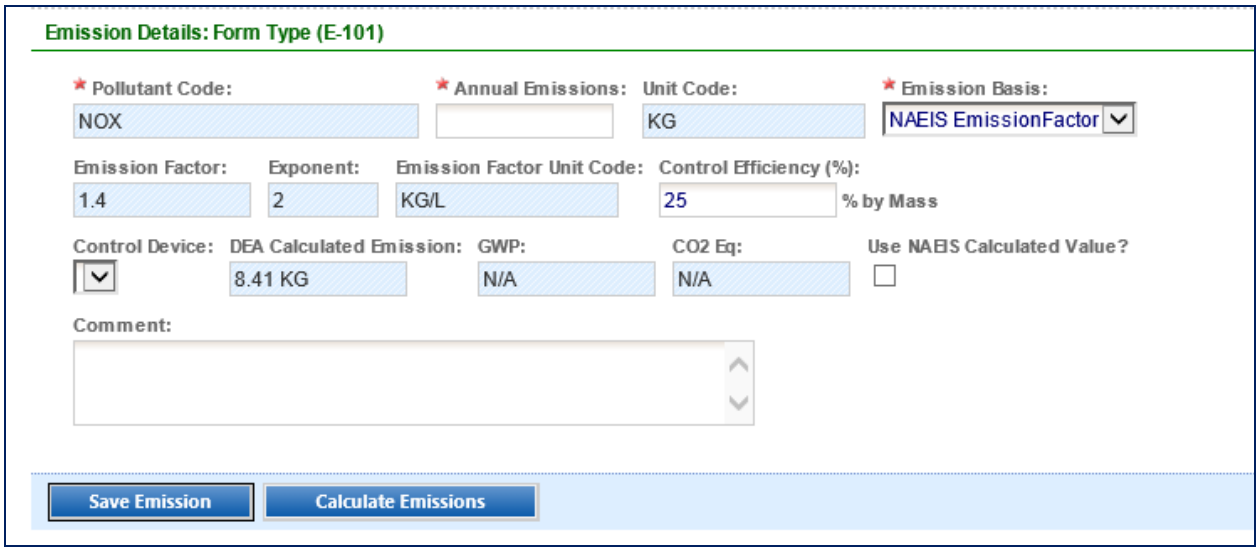


Figure 6-33: Emission Form

6.6.8 Emission Details

Complete this section for each criteria pollutant that is emitted from the material identified in correlated activity form.

1. **Pollutant Code**: This is non-editable field. The pollutant has been selected in the emission list page.

2. **Emission Basis**: (If this field has been pre-filled with "NAEIS Emission Factor" and you would like to use the factors provided, skip this field). After you have identified the pollutants that need to be reported in the pollutant code field, you will need to enter the basis on which you will calculate your annual emissions for that pollutant. Click on the field and a drop-down list with your options will appear. Select the basis on which you will estimate emissions for this pollutant. Emissions should be estimated using the best available site-specific data according to the hierarchy below.

   - ***CEM*** - Continuous Emissions Monitoring
   - ***Site Specific Stack Test*** - Stack test protocol. Results from the most recent stack test (generally conducted less than five years previous) should be used.
   - ***PEM*** - Parametric Emissions Monitoring
   - ***Mass Balance*** - The method that allows estimation of emissions by analyzing inputs of a material to a process minus consumption, accumulation, and loss of that material during a process.
   - ***Tank Model*** - The TANKS model is an US-EPA computer software program that computes estimates of volatile organic compound (VOC) emissions from fixed and floating-roof storage tanks. TANKS are based on the emission estimation procedures from Chapter 7 of US-EPA's Compilation of Air Pollutant Emission Factors (AP-42), plus recent updates from the American Petroleum Institute. The TANK software can be accessed via the Internet at www.epa.gov/ttn/chief.
   - ***Landfill Model*** - This US-EPA model was developed by the Control Technology Center (CTC). The Landfill Air Emissions Estimation Model can be used to estimate emission rates for methane, carbon dioxide, non-methane organic compounds, and individual toxic air pollutants from landfills. The Landfill software can be accessed via the Internet at www.epa.gov/ttn/chief.

- ***NAEIS Emission Factor*** - SCC code/emission factors that are in the NAEIS reference table. If you are using an emission factor not provided in the emission factor table at the bottom of the screen, you should select "Other" as the emission basis.
- ***Other*** - If not previously identified, select "Other", and attach supporting documentation.

3. **Emission Factor/Exponent**: These fields must be completed only if you are using an emission factor to estimate emissions for the pollutant. If you are using another method to calculate your emissions (e.g. Mass Balance, TANKS, etc.), leave these fields blank. If "NAEIS Emission Factor" was entered for Step 2, these fields will be pre-filled.

List the proper emission factor, using scientific notation. The emission factor unit code will be pre-filled with the unit code pounds divided by the unit code for the material entered on the activity form.

Scientific Notation:

The emission factors are expressed in scientific notation, which means that the decimal point has been moved. If the exponent is negative, move the decimal point to the left. If the exponent is positive, move the decimal point to the right. If the exponent is zero, the decimal point does not move. For example, if a number is expressed as 2.0E-1, move the decimal point one place to the left to get 0.20. If a number is expressed as 2.0E2, move the decimal point 2 places to the right to get 200. If a number is expressed as 2.0E0, the decimal point does not move – the number is 2.0.

4. **Control Efficiency %**: Enter the control efficiency percent of the control device(s) for the pollutant being reported (this could be a combination of capture and destruction efficiencies). Control efficiencies may be listed on the equipment, in the equipment documentation, or by contacting the equipment supplier.

If you are using NAEIS emission factors, after control efficiency is entered, you can run the Emission Calculation (by clicking the "Calculate Emission" button) to automatically calculate your actual controlled emissions. If you are not using NAEIS emission factors to calculate your actual emissions, see the Control Efficiency Discussion below to calculate your actual emissions after control.

Using the Control Efficiency to Calculate Actual Emissions:

If a facility has control equipment, the actual emissions after control can be calculated by multiplying the actual uncontrolled emissions by a control factor. Calculate the control factor by subtracting the percent control efficiency (entered for Step 4) from 100 and then dividing that number by 100. Overall control efficiency is calculated by multiplying the capture efficiency by the control efficiency.

For example, if you have a control device with a capture efficiency of 85% and a control efficiency of 95%, the overall control efficiency would be 0.85 x 0.95 = 0.8075 (80.75%). Use the overall control efficiency to calculate the control factor (100 – 80.75)/100 = 0.19. Using the control factor, we can estimate the annual emissions after control. Using the control factor above, if an emission unit has actual uncontrolled emissions of 129,600 kg/year, the actual emissions after control would be 129,600 kg/year x 0.19 = 24,624 kg/year or 24.62 ton/yr. You would enter 24.62 tons into the Annual Emissions/Unit Code fields (see step 5).

5. **Annual Emissions**:

To use the emission calculator, click the "Calculate Emission" button in this form. You can enter user-calculated annual emission in this field. Otherwise, if you agree to use the system-calculated value, click the "Use System Calculated Value" checkbox, and this field will automatically populate.

6. **Comment**: If needed, enter any explanation or description of the information entered on this form in this field. If you have to submit calculations or other data to support your emissions estimate, click on the "Attachment" tab to upload your supporting documentation to system.

6.7 Completeness Check

Once you have completed all the forms, use the Completeness Check function to scan the forms for possible warning/error message. The Completeness Check ensures that there are reasonable responses in required data fields. If fields are incomplete or incorrect, the System will generate warning or error messages.

The error report and messages will describe the potential problem and indicate on which form and field must be corrected. The completeness check does not verify whether the information you have entered is correct, but rather if the information you have entered is adequate for a complete submittal.

Errors generated from the Completeness Check must be corrected before the forms are submitted, while warnings will not hold back the EI Report submissions. After the corrective actions are taken, running the Completeness Check again will then re-assess the result of these actions. If you encounter any Completeness Check error messages that appear to be irresolvable, please contact the appropriate Authority accordingly.

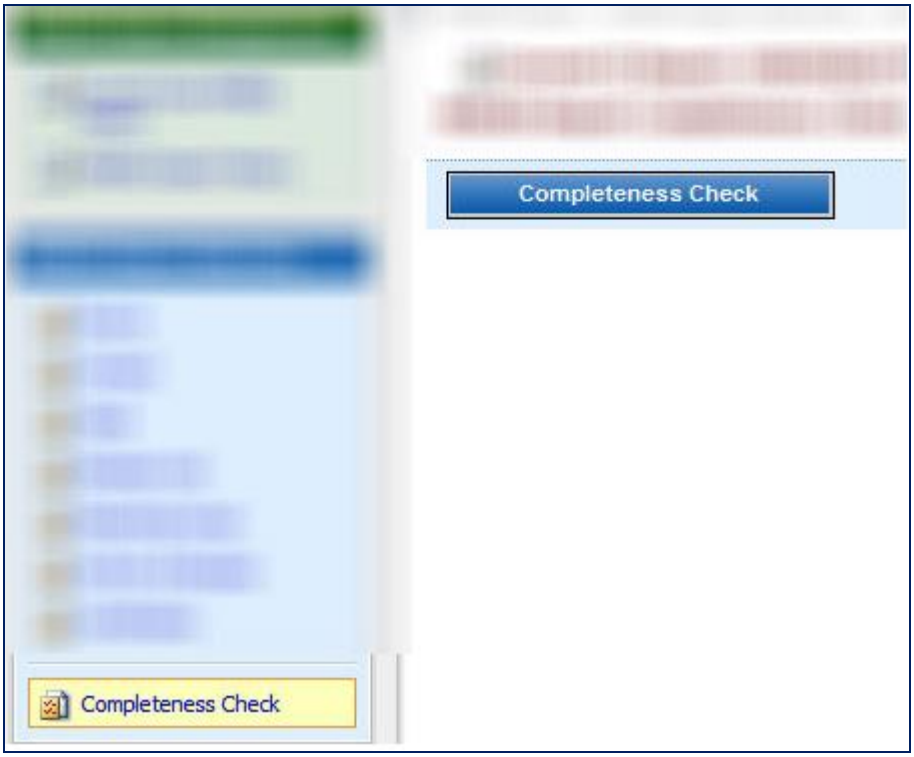


Figure 6-34: Completeness Check Function

If errors are encountered in the Completeness Check, this message will display: "Failed Completeness Check".

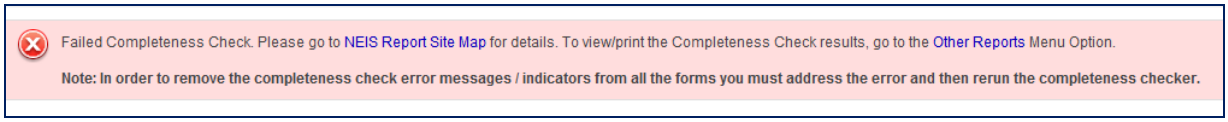

Failed Completeness Check. Please go to NEIS Report Site Map for details. To view/print the Completeness Check results, go to the Other Reports Menu Option.
Note: In order to remove the completeness check error messages / indicators from all the forms you must address the error and then rerun the completeness checker.

Figure 6-35: Completeness Check with Error(s)

If no error is generated from the Completeness Check, this message will display: "Passed Completeness Check".

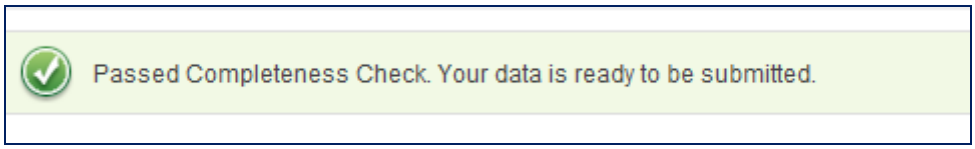


Figure 6-36: Completeness Check without Error

There are three ways of viewing error or warning message details:

1. Go to the NAEIS Report Site Map and hover the mouse over the data entry form with an error or warning icon (Figure 6-37). The error message is indicated by the use of "Red" icon. The warning message is indicated by the use of "Yellow" icon. The error or warning message will appear in the tooltips.

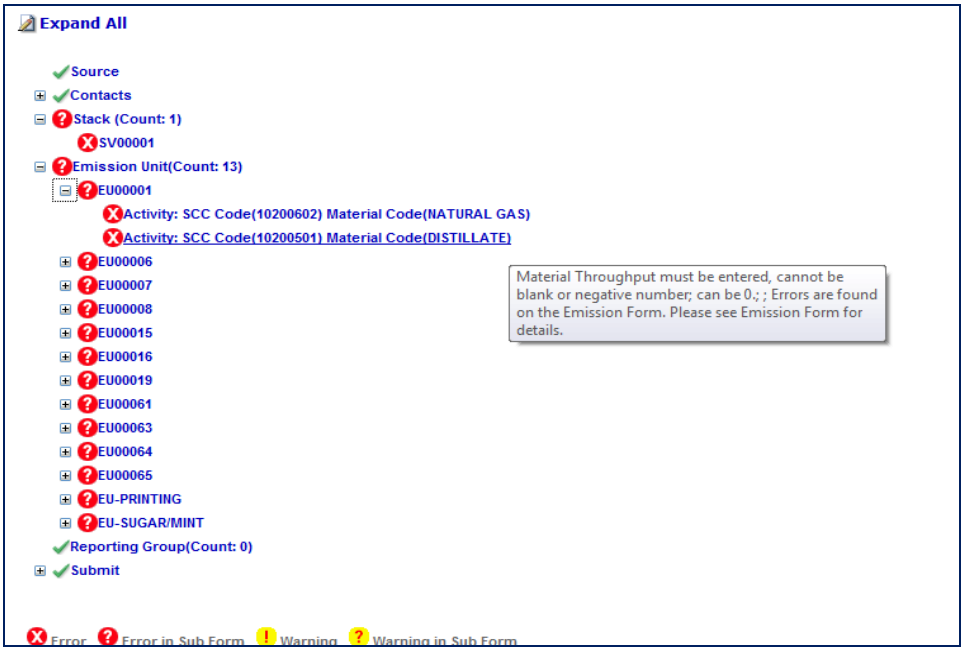


Figure 6-37: NAEIS Report Site Map - Completeness Check Error/Warning Message

2. In the Site Map, click the entry with an error or warning icon. The system will lead you to the specific source, contact, stack, emission unit, reporting group, activity, preparer, or Accounting Officer form. The warning/error message generated from the completeness check will display in the upper portion of the specific form (shown below). The error message is indicated by the use of "Red" background. The warning message is indicated by the use of "Yellow" background.

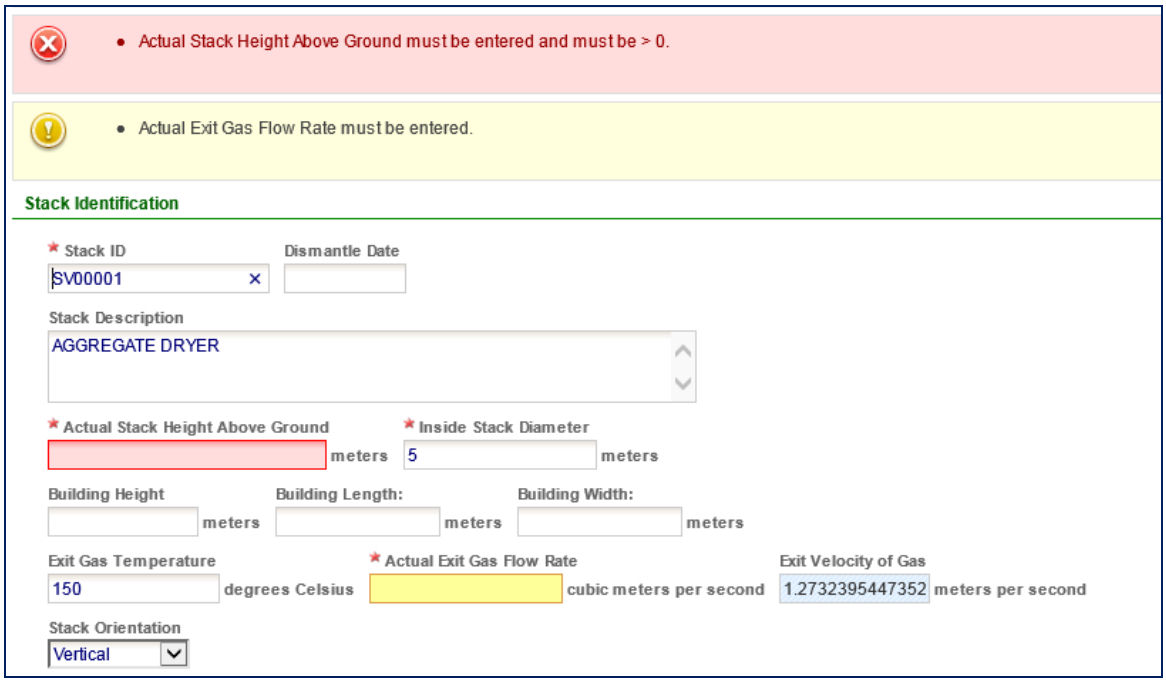


Figure 6-38: Sample: Stack Form With Completeness Check Warning/Error Displayed

3. All of the Completeness Check errors and warnings are compiled into a report, "Completeness Check Report". The "Completeness Check Report" can be accessed in NAEIS Report Module → Report Management → Other Reports → Completeness Check Report (See Figure 6-39)

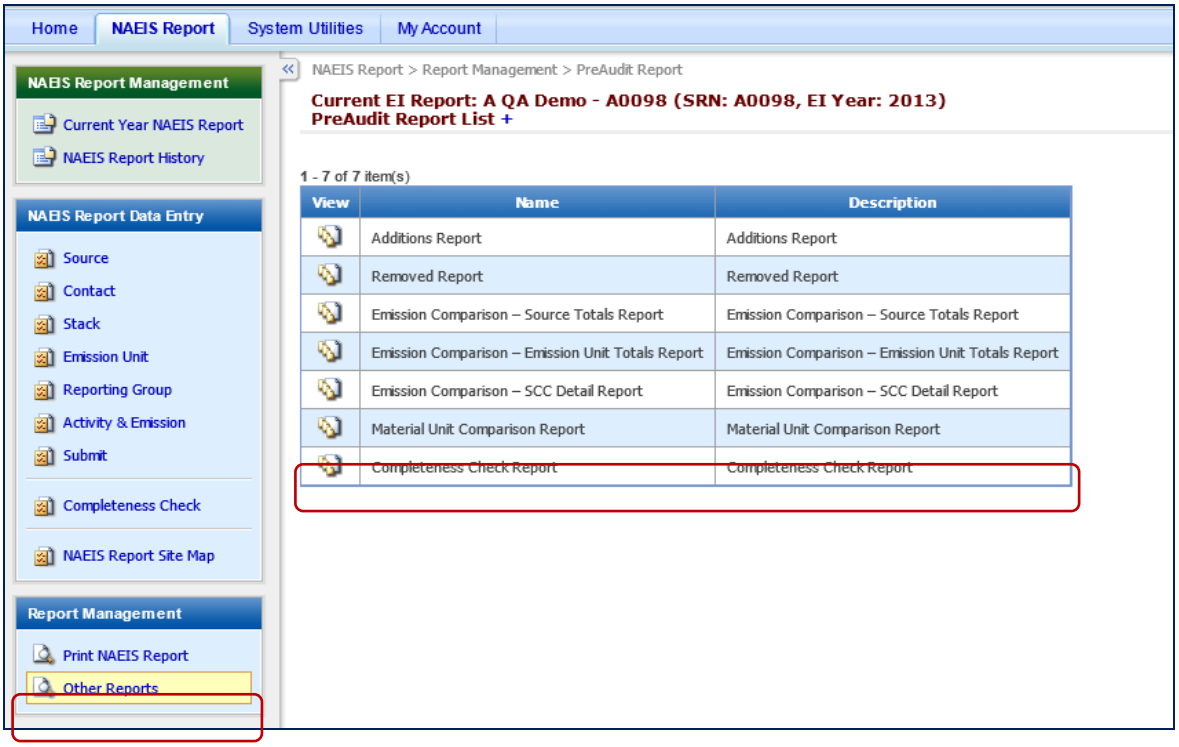
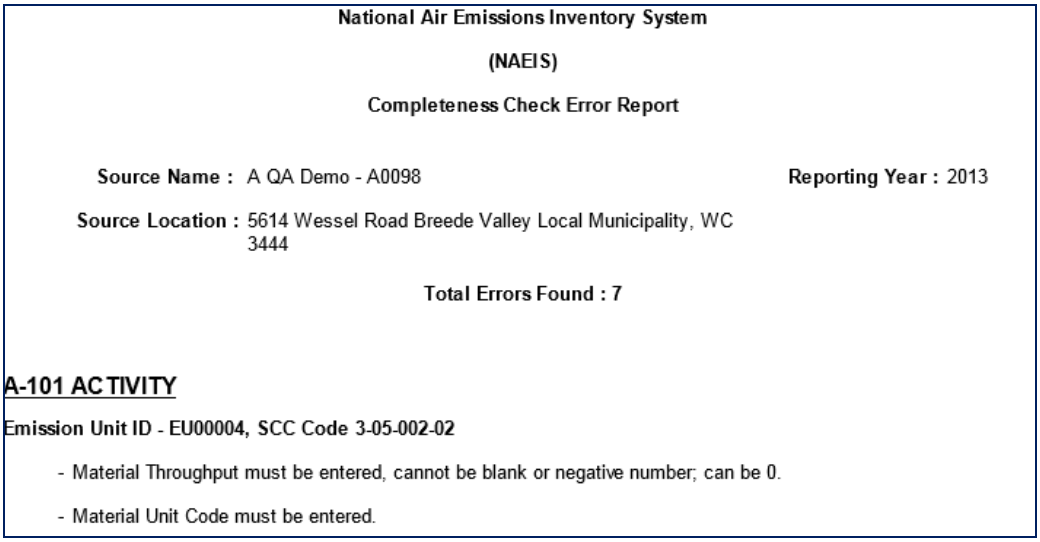


Figure 6-39: Completeness Check Report

Click the **"View"** icon next to **"Completeness Check Report**" to view the details of the report. The report will list the basic information of this source, and the error and warning messages in

each form. This report will be useful in the correction of relevant forms based on the Completeness Check results.

A sample of the Completeness Check Report is shown in Figure 6-40.



National Air Emissions Inventory System

(NAEIS)

Completeness Check Error Report

Source Name : A QA Demo - A0098 **Reporting Year :** 2013

Source Location : 5614 Wessel Road Breede Valley Local Municipality, WC 3444

Total Errors Found : 7

A-101 ACTIVITY

Emission Unit ID - EU00004, SCC Code 3-05-002-02

- Material Throughput must be entered, cannot be blank or negative number; can be 0.
- Material Unit Code must be entered.

Figure 6-40: Sample of Completeness Check Report

6.8 Certification and Submission

6.8.1 Preparer Form Overview

The Preparer Form is an optional form which displays information about the person(s) responsible for the individual Emission Units in the NAEIS Report.

Some companies have different people responsible for emissions from different processes at the facility. Therefore, instead of making one person responsible for all of the emissions, each person can list their respective data. If a facility has more than one preparer listed on this form, the reporting groups and emission units that the preparer is responsible for must be listed on the "Emission Unit(s) Preparer worked on" section of the form.

6.8.2 Preparer Form Completion Instructions

Completion of this form consists of three sections: the Preparer List section, the Preparer Information section, and the "Emission Unit(s) Preparer worked on" section. If you submitted a NAEIS report during a previous reporting period, all of this information should be pre-filled. If any information has changed or needs to be updated, edit the proper fields. If all the information that is pre-filled is still accurate, you do not have to complete this form. Following is an explanation of each section of the preparer form, as well as step-by-step instructions on how to complete the required fields.

6.8.3 Preparer List Section

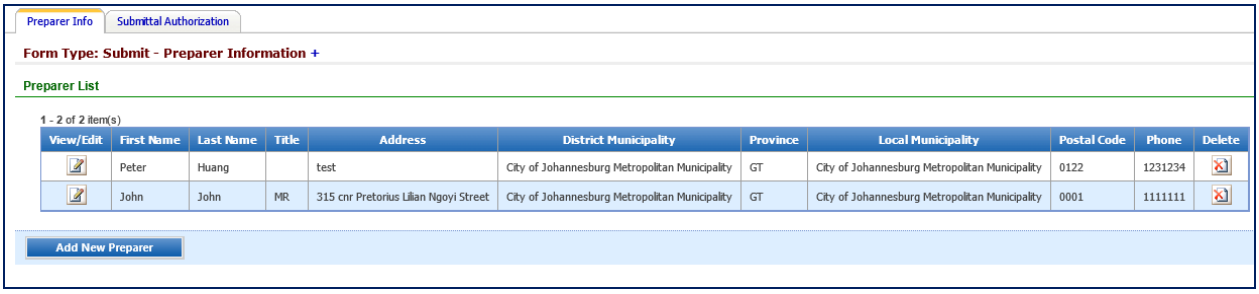


Figure 6-41: Preparer List

The Preparer List shows the current preparers who have contributed to the NAEIS reporting of this source. Click "Add New Preparer" to add any preparer that is not in this list but has prepared the data entry forms.

Click the "View/Edit" icon to access the preparer form.

6.8.4 Preparer Information Section

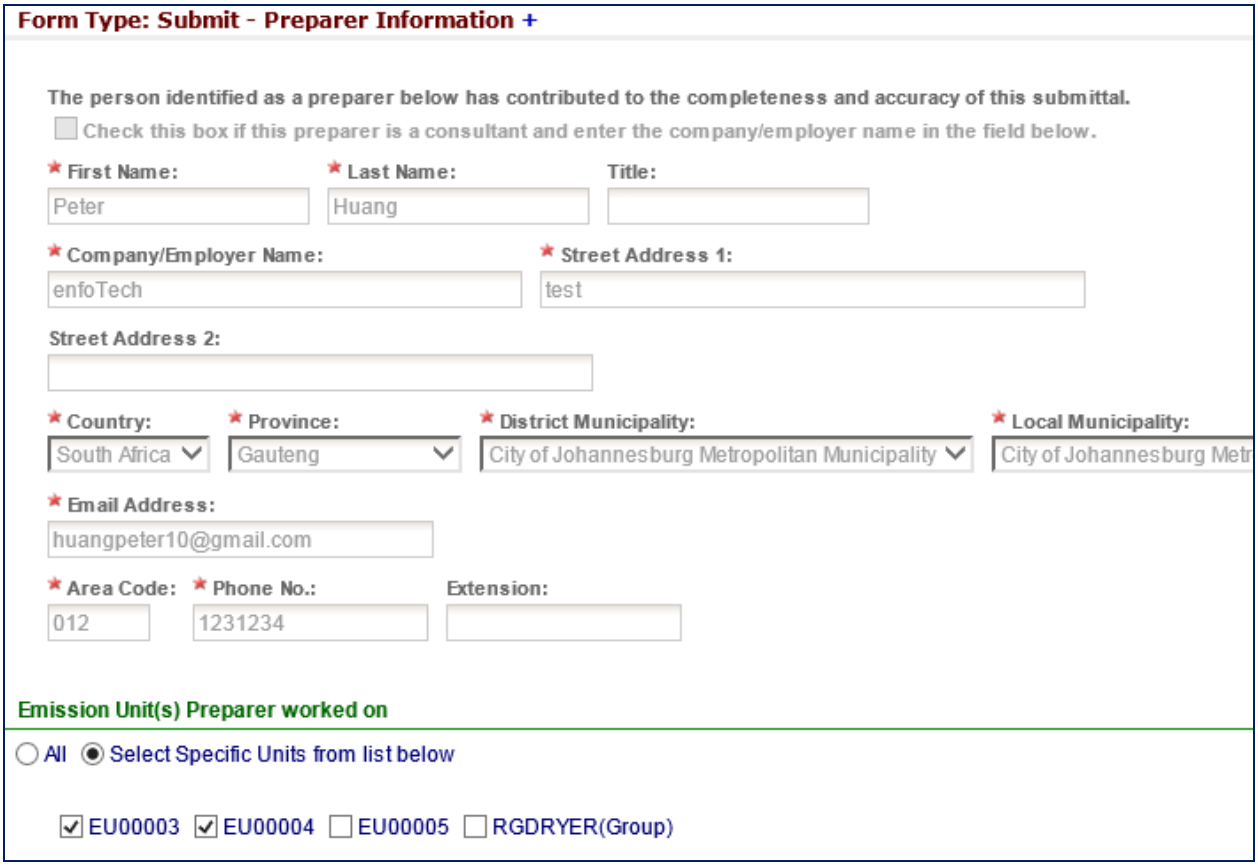


Figure 6-42: Preparer Form

Complete the fields in this section for each preparer. Follow the steps below (refer to the form in Figure 6-42).

1. **Company Name**: Enter the company name with which the preparer is associated.

2. **Preparer's Information**: Enter the preparer's name, title, mailing address, telephone, fax number, and e-mail address. Every source must have at least one preparer.

3. **Emission Unit(s) Preparer worked on:**

   - If there is only one preparer in this source, select the "All" radio button.

   - When there is more than one preparer in this source, select the radio button "Select Specific Units from list below", and check the applicable emission units and reporting groups.

6.8.5 Primary Preparer Form Overview

Click the Certification tab () and enter the Accounting Officer Form.

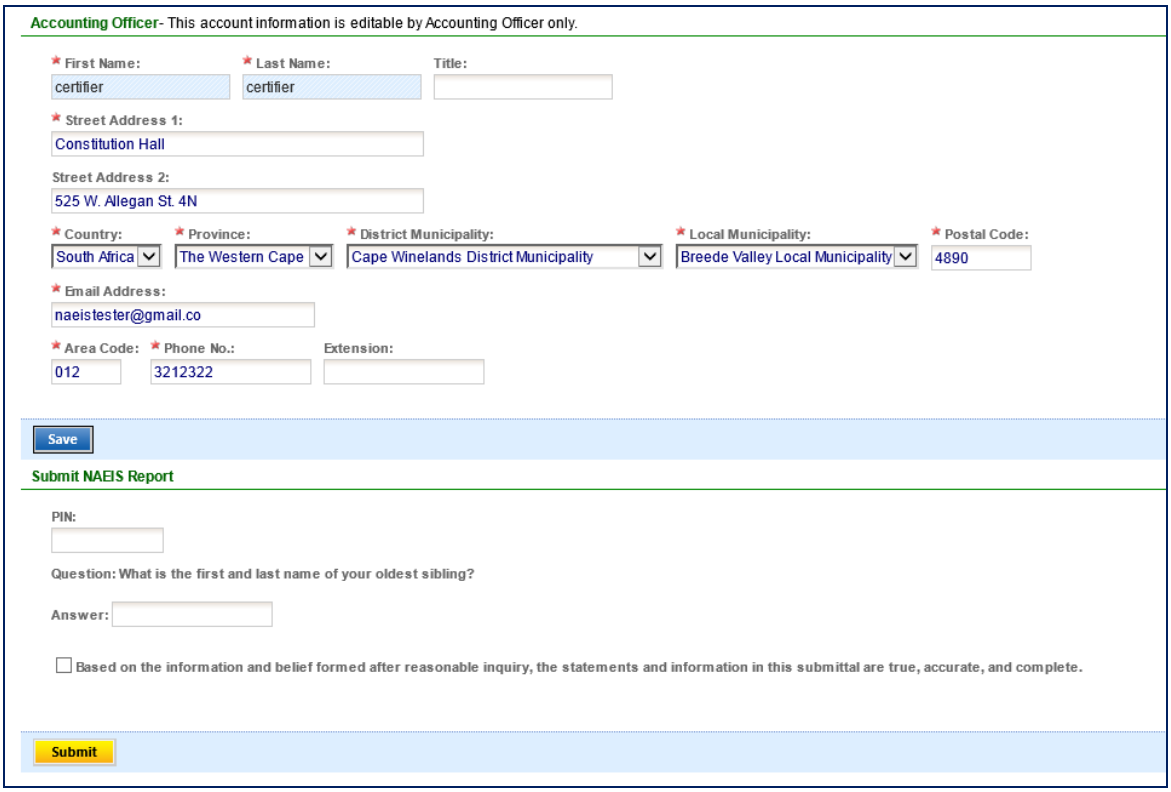


Figure 6-43: Accounting Officer Form

This form is required for all submittals. The Accounting Officer of the NAEIS Report submission will need to fill in his/her contact information here, certify the data entry forms, and make the submission.

6.8.6 Form Completion Instructions

1. **Accounting Officer Contact Information**: Enter the Accounting Officer's name, title, mailing address, telephone, fax number, and e-mail address.

2. **PIN**: Enter the PIN number. The PIN number can be retrieved in the "My Account" module.

3. **Security Question & Answer**: A randomly picked security question will display for the Primary Preparer to answer. Enter the user-defined answer to this question. The security questions and answers will be set when the user logs into the NAEI system for the first time. They can be accessed in "My Account" module as well.

4. **Submission**. When everything in the data entry form is verified, click the checkbox "Based on the information and belief formed after reasonable inquiry, the statements and information in this submittal are true, accurate, and complete." Click the "Submit" button to submit the NAEIS Report.

6.8.7 Completeness Check Executed by the System When an EI Report is Submitted

When an EI Report is submitted, a completeness check will be executed by the system on all data entry forms. If the completeness check failed, the error message(s) will display in the upper portion of page.

Upon seeing this message, go to the NAEIS Report Site Map (on the left navigation panel) to review the form errors, and make applicable corrections to ensure the validity of submitted data. Then, submit the EI Report again.

If the completeness check passes, an EI Report submission successful message will display in the upper portion of page.

Please see Section 5.7 for more information on Completeness Check.

6.9 Reports

The use of reports within the NAEIS is a feature that allows authority users to view data about specific EI Reports in a presentable format. Reports can be exported into several different formats (excel, word, pdf) and can be printed upon command. These are very helpful when authority users need to perform further analysis on the emission data for a particular source. Because of the reports flexibility, it can show comparison between the current year data and previous years' data. This is helpful in allowing auditors to draw comparison between different years.

The following list contains pre-defined reports that exist in the NAEIS

1. **Source Summary Report** – lists user-entered source, contact, emission unit, stack, activity, and emission data, presented in a summarized table formats.

2. **NAEIS Data Entry Forms –** prints the user-entered Source, Contact, Emission Unit, Stack, Activity, Emissions, Preparer, and Certifier data in the format of "paper" EI forms. This report has the look and feel of a traditional "paper" EI Report.
3. **Additions Report** – displays all Stacks, Emission Units, Reporting Groups, SCC Code Activity, and Preparers (Operators) that have been added to the source in this reporting

year. For example, if you add a new stack to the Stack form, then that stack will appear on the Additions report.

4. **Removed Report** – displays all Stacks, Emission Units, Reporting Groups, SCC Code Activity, and Preparers (Operators) that have been removed from the source in this reporting year. For example, if you delete a stack from the Stack List, then that stack will appear on the Removed Report. All Emission Units and Stacks that have a "Dismantle Date" entered will also be listed on the Removed Report. Information that is dismantled or deleted from the system will not appear in the blank report in the following year.

5. **Emission Comparison (Source Totals Report)** - Shows the comparison between the emissions calculated by the reporting facility and the emissions calculated by DEA. This is for the whole source in general. **Note that this report is only applicable to Industrial sources.**

6. **Emission Comparison (Emission Unit Totals Report)** – Shows the comparison between the emissions calculated by the reporting facility and the emissions calculated by DEA. This is sorted by emission unit. **Note that this report is only applicable to Industrial sources.**

7. **Completeness Check Report** – uses the administrative completeness check to edit the entered data for errors. The Completeness Check edit must result in zero errors before the database can be submitted. This completeness check ensures that there are reasonable responses in required data fields. If something is missing or incorrect, the system will generate an error report to show the error messages. The error report will describe the problem and indicate which form and field must be corrected. **Note that this report is only applicable to Industry type sources.**

In each pop-up report window, you will see an option of "view/print/export" at the top of the report (Figure 6-44).

To export, select a file format from the drop down list, then click "export". Choose the file path you want to save and then save the file.

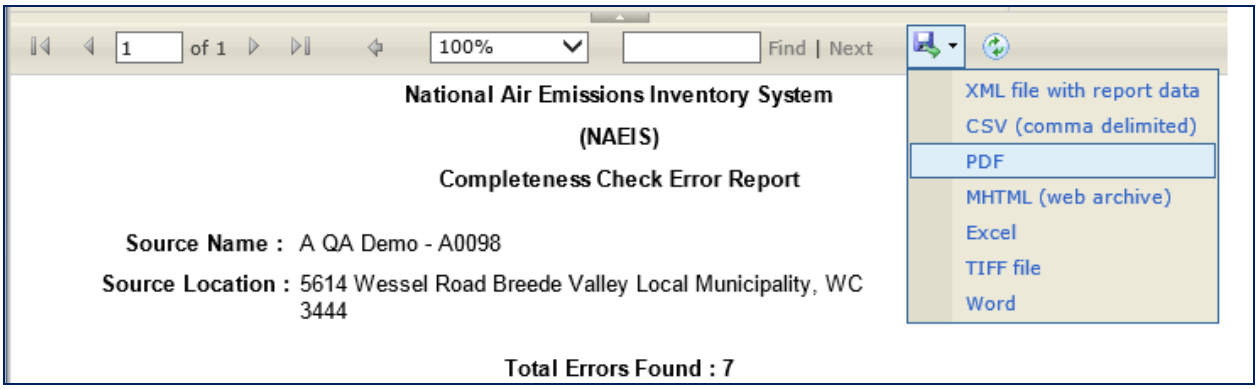


Figure 6-44: View/Export a Report

7 Security Management (for Accounting Officers and Emissions Control Officers Only)

This module is used by Accounting Officers and Emissions Control Officers to maintain facility "Reviewer" and "Preparer" users' accounts and security settings.

7.1 Create/Modify a User

Facility Accounting Officers and Emissions Control Officers can manage facility "Reviewer" and "Preparer" user accounts by accessing the Manage Users function in System Utilities module.

In this web page, there are three functional areas (Figure 7-1):

1. Search for specific users
2. Edit an existing "Reviewer" and "Preparer" user)
3. Associate "Reviewer" and "Preparer" user with facilities

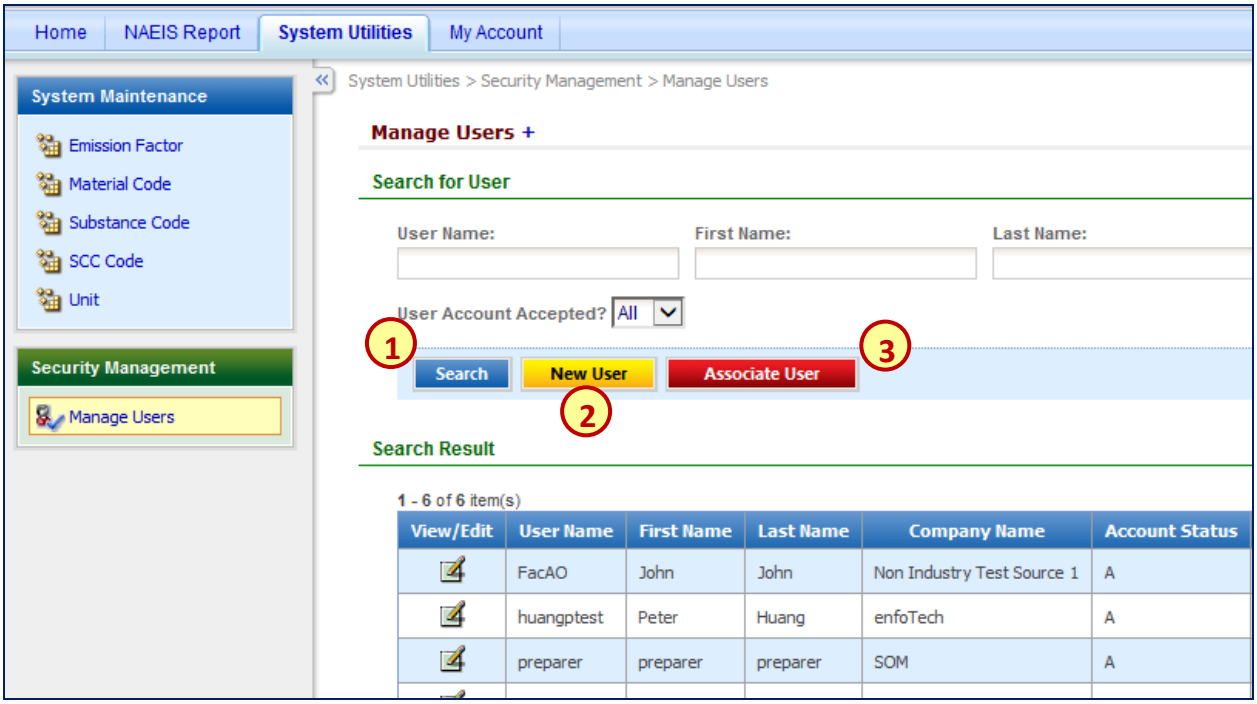


Figure 7-1: User List in NAEIS

1. Search for specific users

The user list can be searched with the following criteria:

- User Name
- First Name
- Last Name
- User Account Accepted

Enter one or more searching criteria and then click on the "Search" button. The searched results will display in the grid view (Figure 7-1). In the grid view, the following fields will be displayed:

- User Name
- First Name
- Last Name
- Account Status ("A" = Active, "I" = Inactive)
- User Account Accepted? ("Y" = Yes, "N" = No)
- Account Type

2. Create a new user (or edit an existing user)

Click the "New User" button or the "View/Edit" icon in the grid view to display the User Entry web page (Figure 7-2). There are three (3) sections in the User Entry web page:

- General Information
- Other Information
- User Roles

The fields marked with * are required fields.

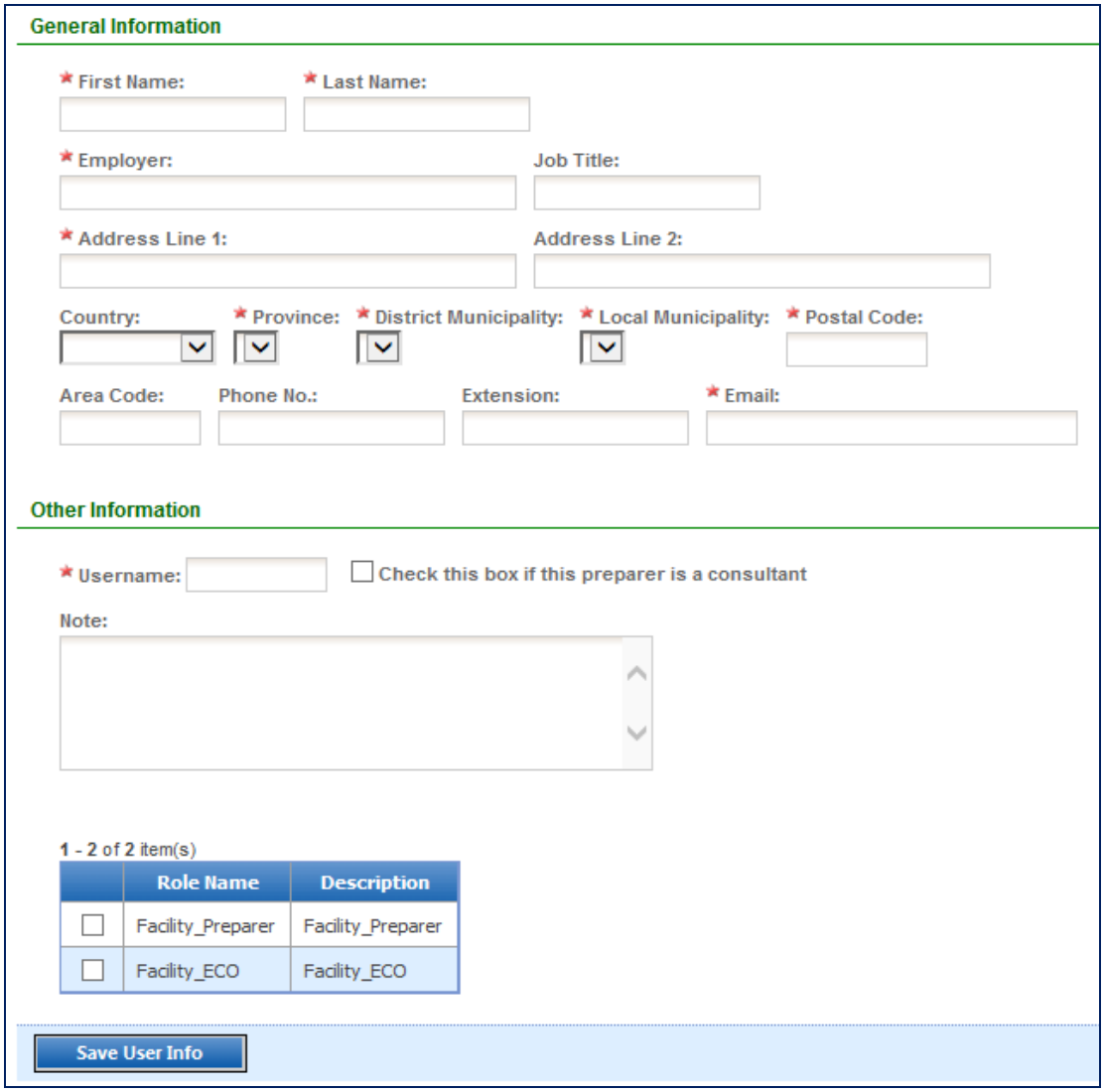


Figure 7-2: User Entry Web Pages in NAEIS

General Information: Enter the user's First name, Last name, Employer, Job Title, Contact Address, Phone Number, and Email.

Other Information: In this section, enter the user's account name (username), and select User Status and Account Approval Status from the drop down list.

User Roles: In this section, select the role with which this user will be associated. Currently, the facility administrator can only assign the role of preparers.

After the three sections are completed, click "Save User Info" to save the web page.

7.2 Associate User with Facility

Click the "Associate User" button (Figure 7-1) to display the Associate User window (Figure 7-3).

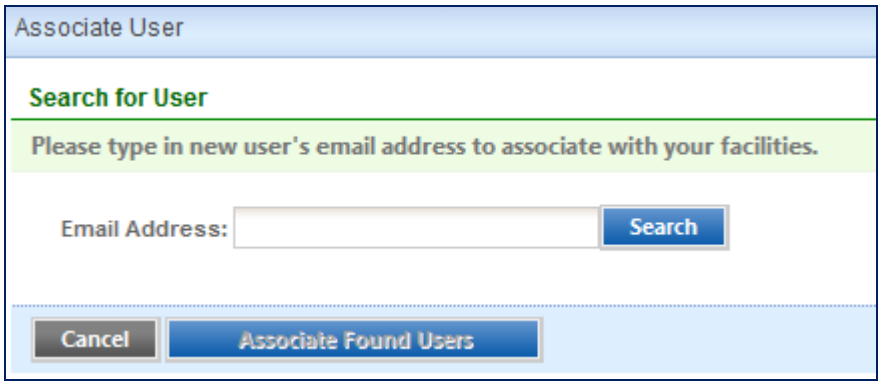


Figure 7-3: Pop up Window of Associating Users

Enter the email address of the "Reviewer" or "Preparer" user you want to associate, then click the "Associate Found Users" button to associate this user with all the facilities linked with the facility Accounting Officer.

8 Reference Data Look-up

Industry users will use this module to find specific emission factors, substance code, material code, SCC code, or unit code.

8.1 Emission Factor

To view Emission Factor reference data in the NAEIS database, go to the System Utilities module - Emission Factor. You can use the search function to find the specific emission factors. The search criteria include:

- Search by **EI Reporting Year**
- Search by **SCC code**

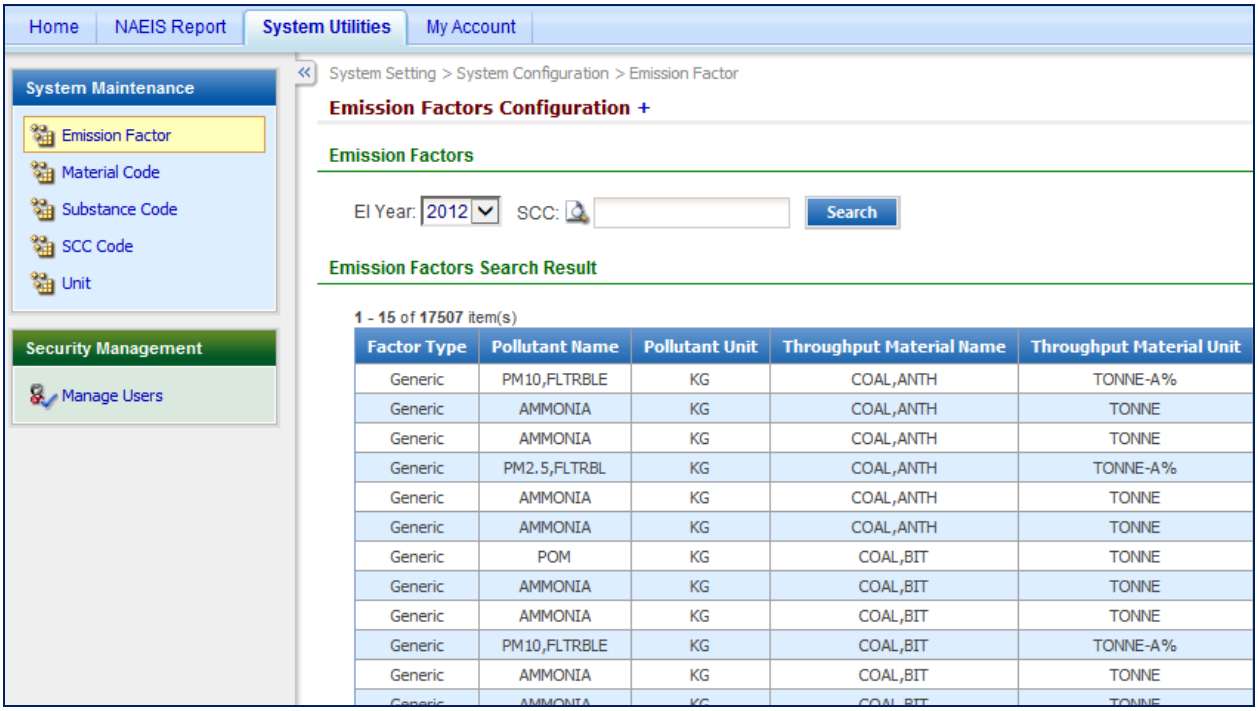

Home
NAEIS Report
System Utilities
My Account
System Maintenance
Emission Factor
Material Code
Substance Code
SCC Code
Unit
Security Management
Manage Users
System Setting > System Configuration > Emission Factor
Emission Factors Configuration +
Emission Factors
EI Year: 2012
SCC:
Search
Emission Factors Search Result
1 - 15 of 17507 item(s)
Factor Type | Pollutant Name | Pollutant Unit | Throughput Material Name | Throughput Material Unit
Generic | PM10,FLTRBLE | KG | COAL,ANTH | TONNE-A%
Generic | AMMONIA | KG | COAL,ANTH | TONNE
Generic | AMMONIA | KG | COAL,ANTH | TONNE
Generic | PM2.5,FLTRBL | KG | COAL,ANTH | TONNE-A%
Generic | AMMONIA | KG | COAL,ANTH | TONNE
Generic | AMMONIA | KG | COAL,ANTH | TONNE
Generic | POM | KG | COAL,BIT | TONNE
Generic | AMMONIA | KG | COAL,BIT | TONNE
Generic | AMMONIA | KG | COAL,BIT | TONNE
Generic | PM10,FLTRBLE | KG | COAL,BIT | TONNE-A%
Generic | AMMONIA | KG | COAL,BIT | TONNE

Figure 8-1: Reference Data of Emission Factors

8.2 Material Code

To view Material reference data in the NAEIS database, go to the System Utilities module - Material Code. You can use the search function to find the specific material codes. The search criteria include:

- Search by **EI Reporting Year**

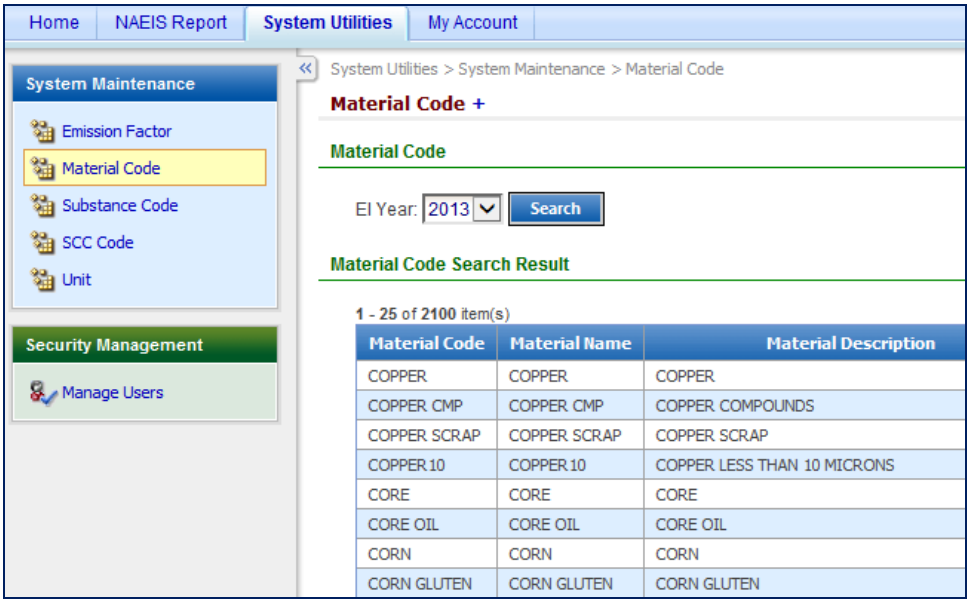

Home
NAEIS Report
System Utilities
My Account
System Maintenance
Emission Factor
Material Code
Substance Code
SCC Code
Unit
Security Management
Manage Users
System Utilities > System Maintenance > Material Code
Material Code +
Material Code
EI Year: 2013
Search
Material Code Search Result
1 - 25 of 2100 item(s)
Material Code | Material Name | Material Description
COPPER | COPPER | COPPER
COPPER CMP | COPPER CMP | COPPER COMPOUNDS
COPPER SCRAP | COPPER SCRAP | COPPER SCRAP
COPPER10 | COPPER10 | COPPER LESS THAN 10 MICRONS
CORE | CORE | CORE
CORE OIL | CORE OIL | CORE OIL
CORN | CORN | CORN
CORN GLUTEN | CORN GLUTEN | CORN GLUTEN

Figure 8-2: Reference Data of Material Codes

8.3 Substance Code

To view Substance reference data in the NAEIS database, go to the System Utilities module - Substance Code. You can use the search function to find the specific substance codes. The search criteria include:

- Search by **EI Reporting Year**

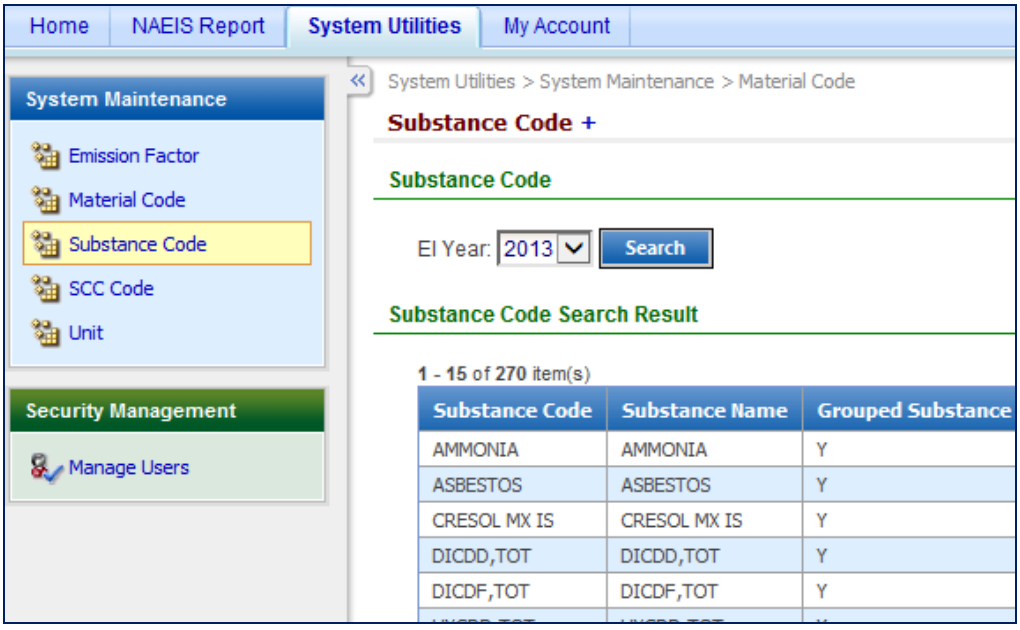


Figure 8-3: Reference Data of Substance Codes

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8.4 NAEIS Source Code

To view NAEIS Source Code reference data in the NAEIS database, go to the System Utilities module – NAEIS Source Code. You can use the search function to find the specific NAEIS Source codes.

In the tree view (Figure 8-4), click the "+" icon to see all the child NAEIS Source codes. After clicking the bottom layer of the NAEIS Source Code, the system will display all SCC Codes associated with it.

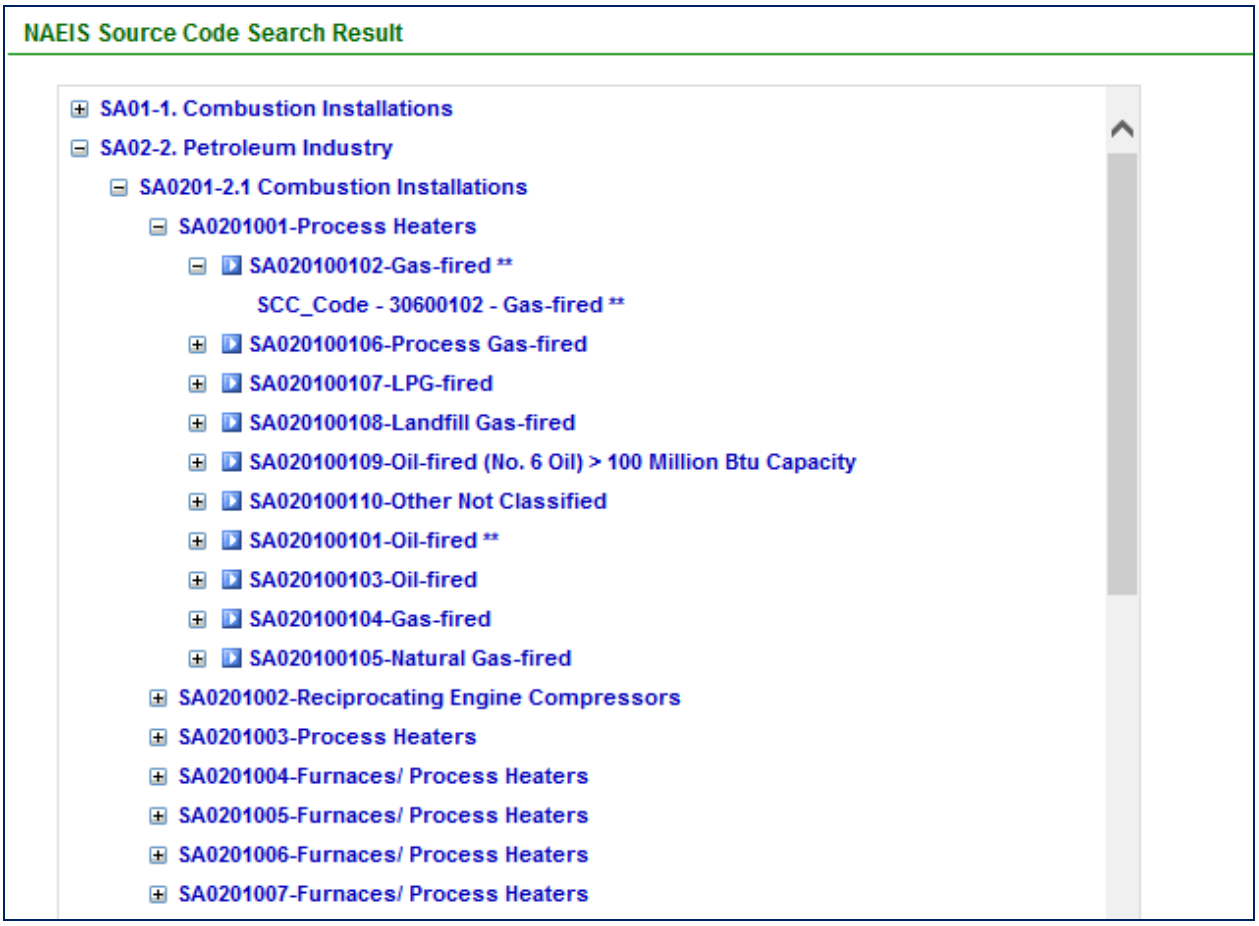

Figure 8-4: Reference Data of NAEIS Source Codes

8.5 Unit Code

To view Unit Code reference data in the NAEIS database, go to the System Utilities module - Unit. You can use the search function to find the specific Unit codes. The search criteria include:

- Search by **EI Reporting Year**

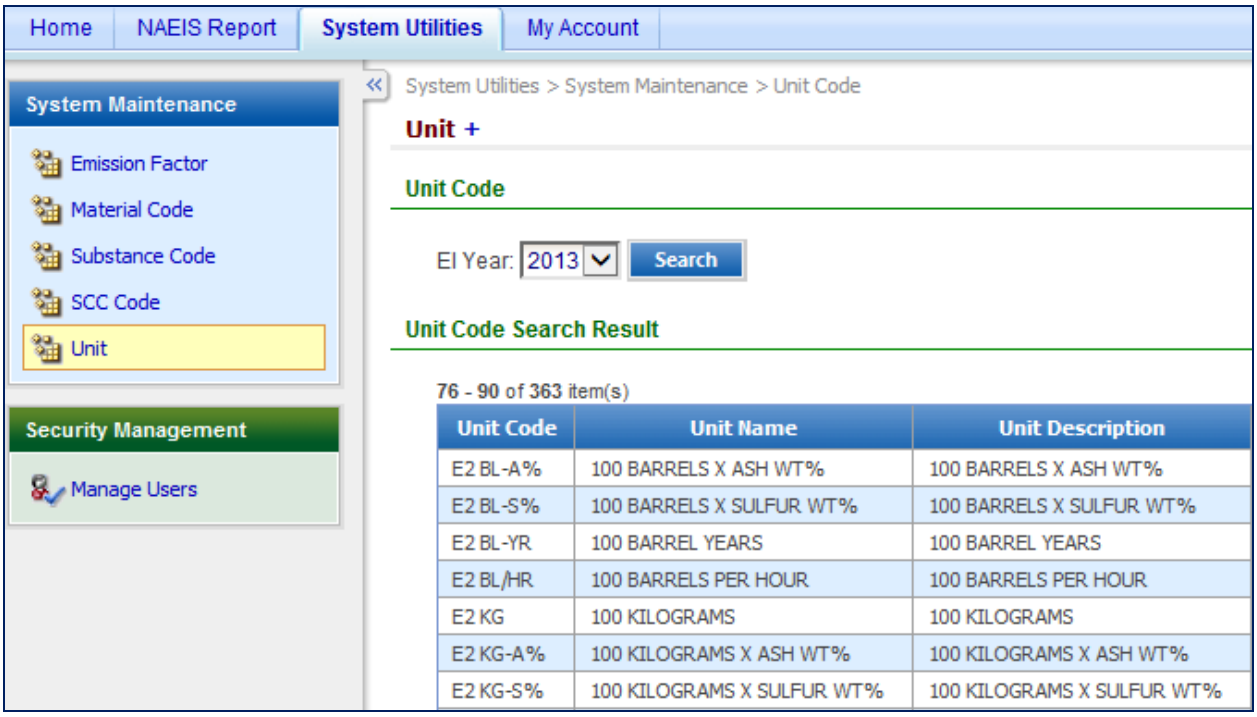

Figure 8-5: Reference Data of Units